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THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

No. 4,283 83rd YEAR

THURSDAY, JULY 27, 1961

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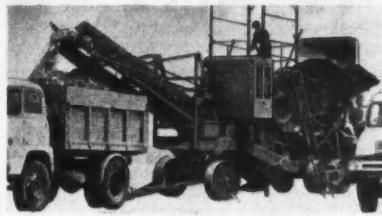
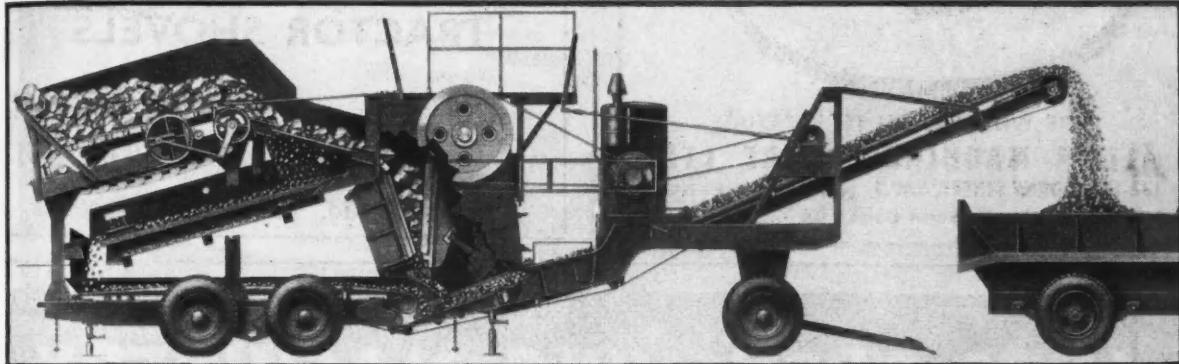
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View showing trenching boom

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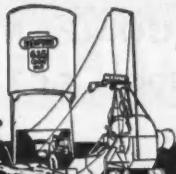
The skip tips and empties under the finger-tip control of the driver and while the Dumper is standing or moving forward or in reverse. Part or all of the load is tipped as desired. Skip goes under ordinary Mixers, holds a cu. yd. of concrete, and, because of sideways tipping, is ideal for kerbing, concreting green pipes, filling trenches and the like.

3-Way Tipping Dumper illustrated is Model OC.
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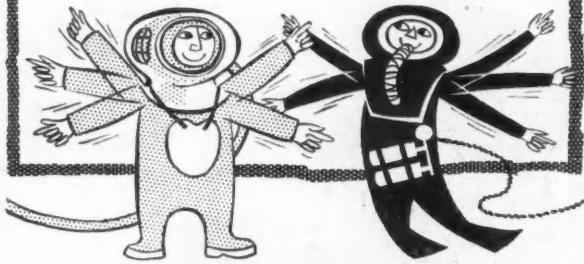


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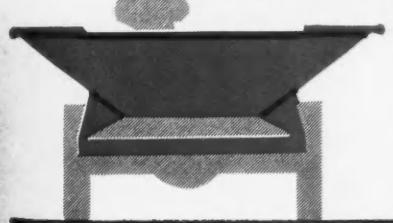


Coventry Cathedral: Architect — Sir Basil Spence, R.A.
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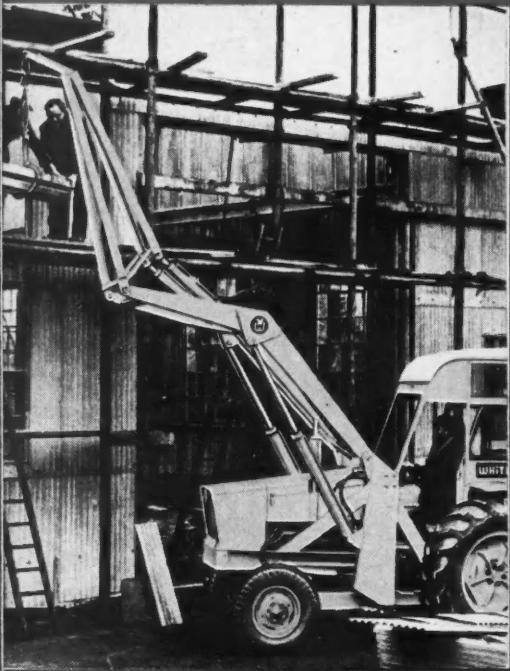
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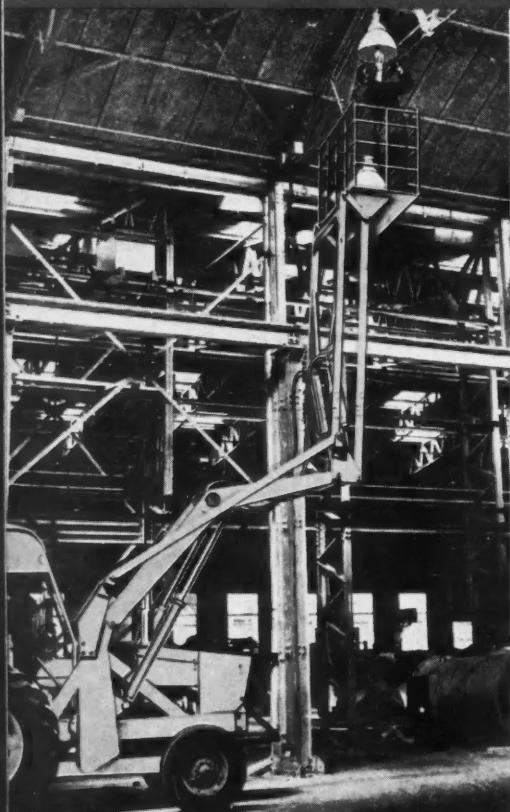
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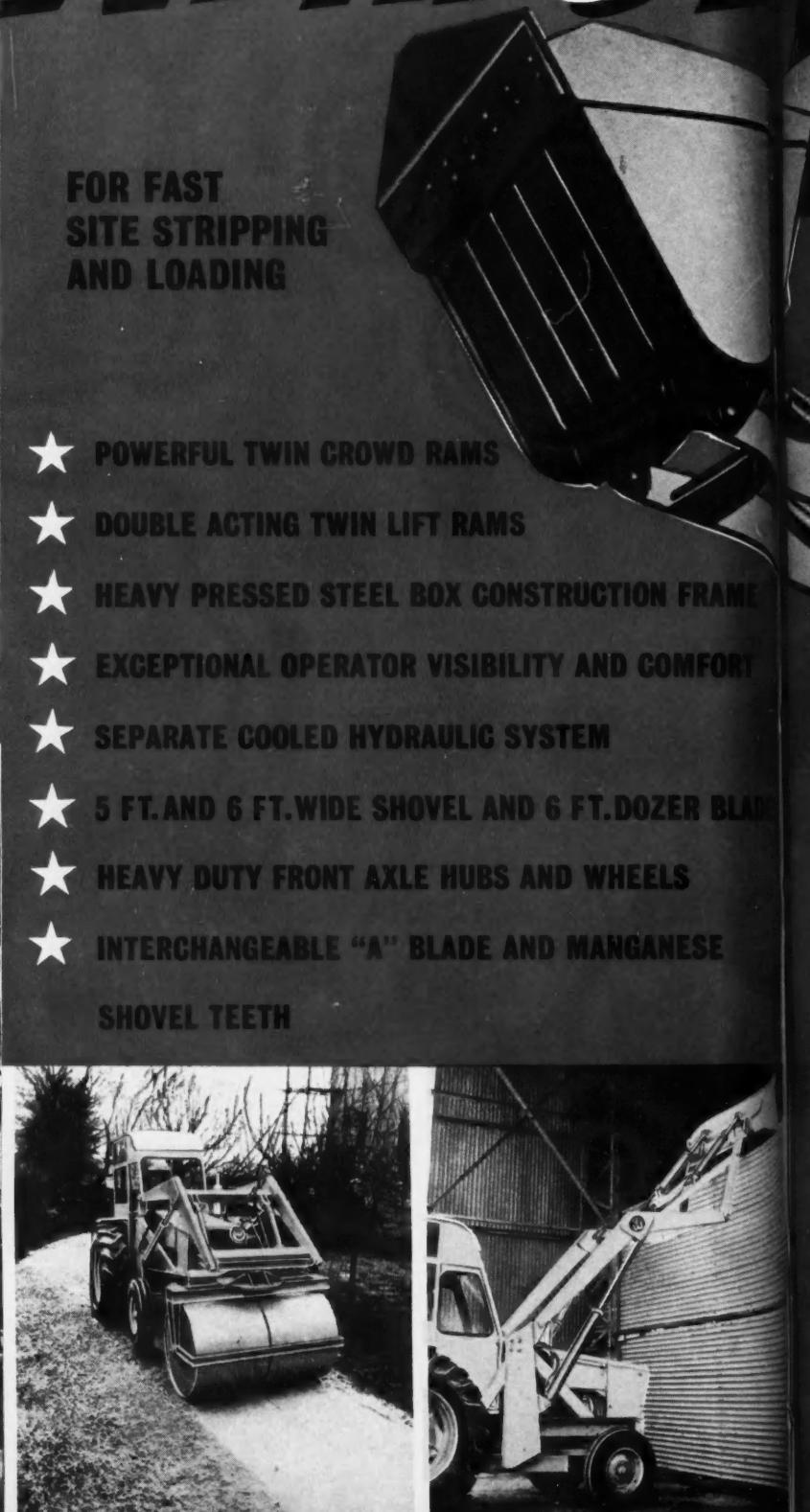
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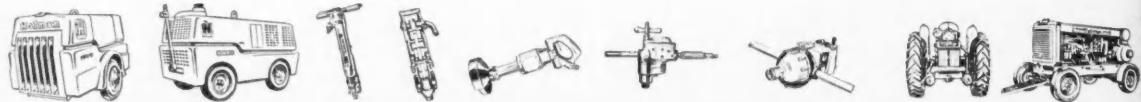


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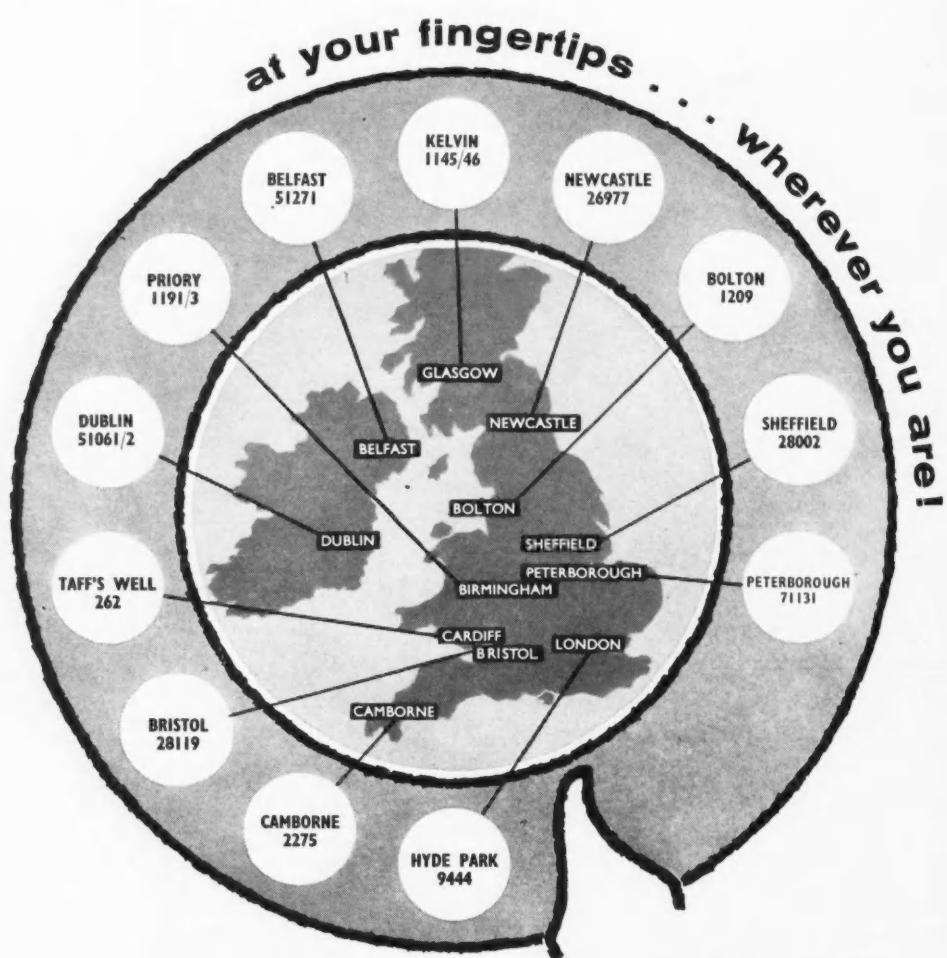


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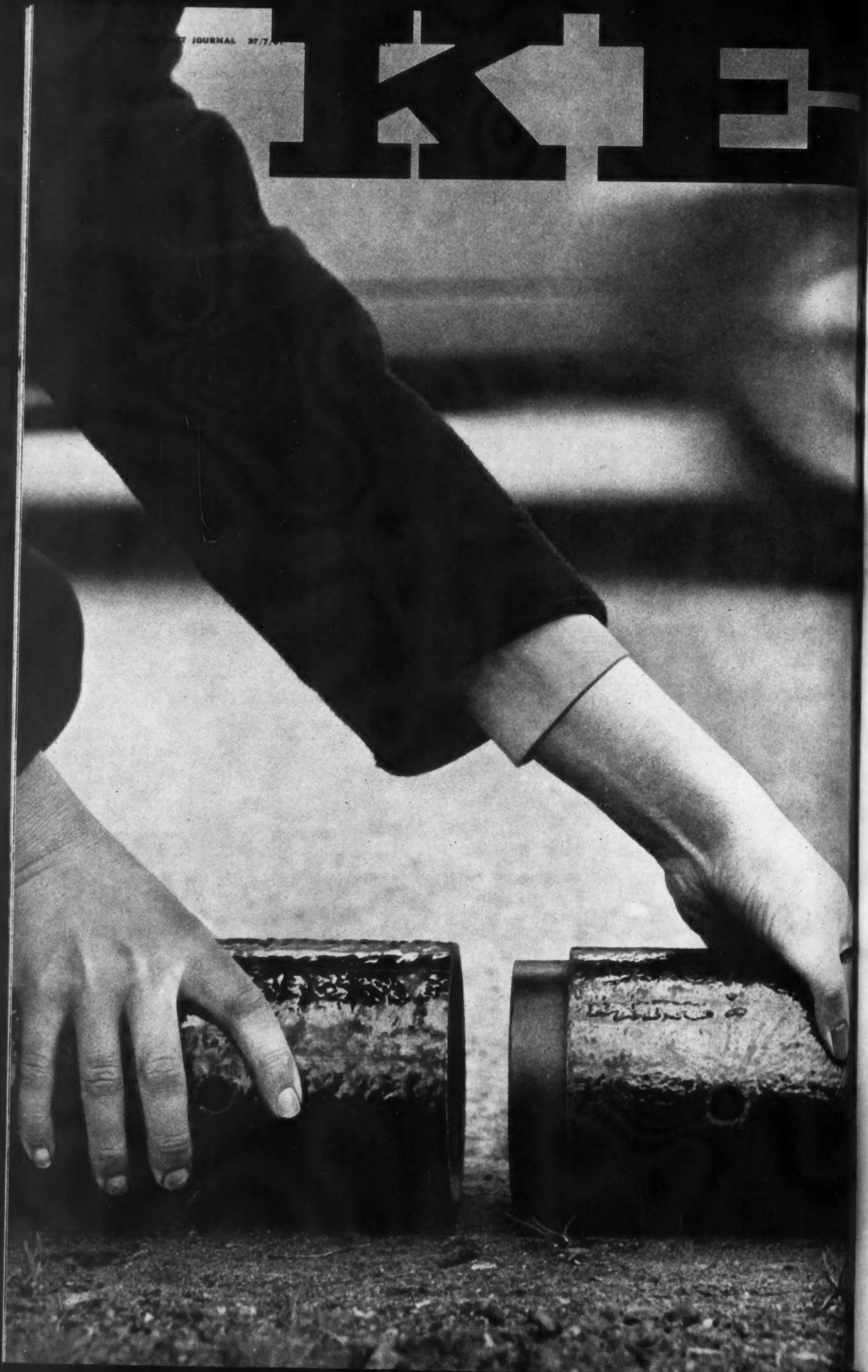
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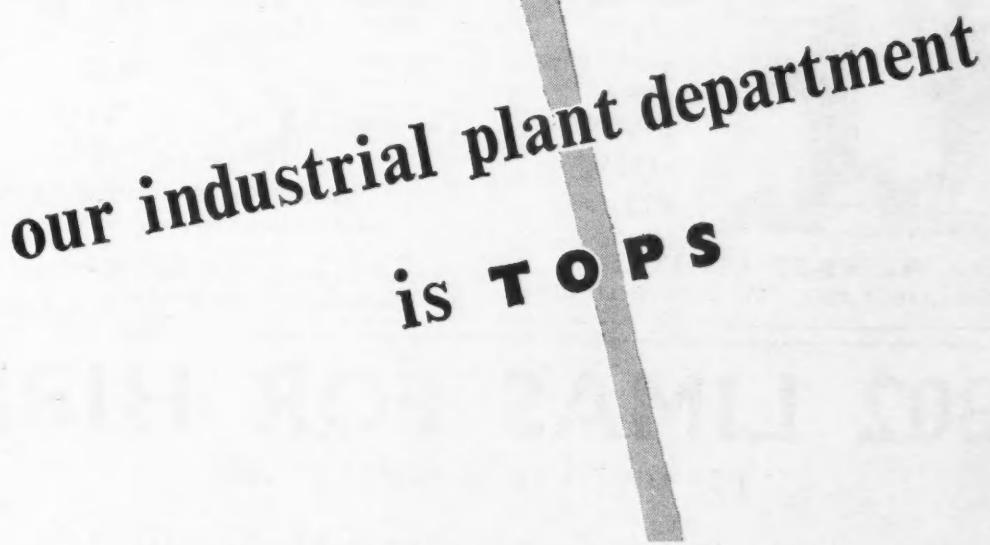
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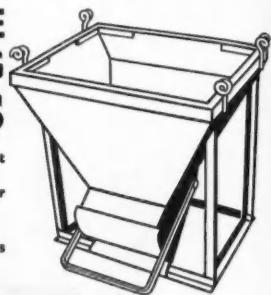
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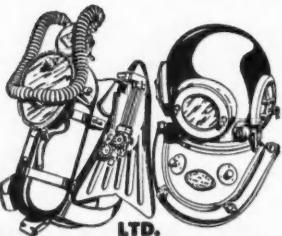
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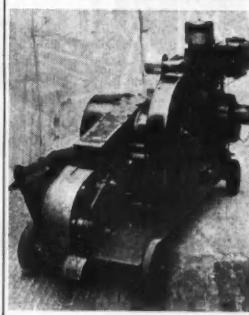
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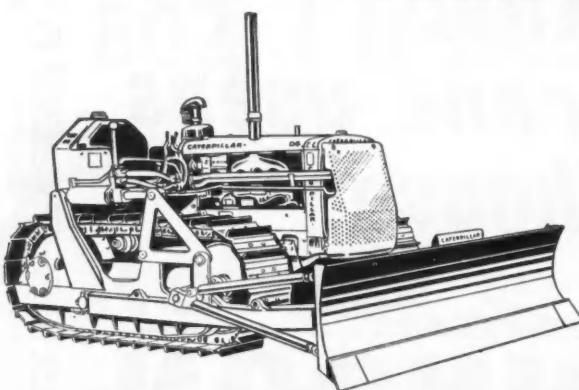
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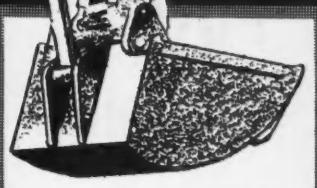
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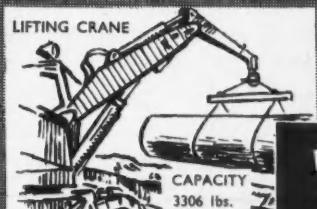
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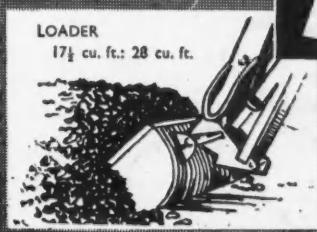
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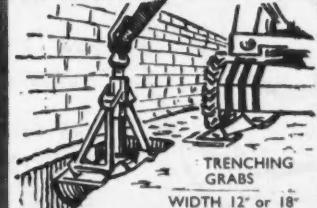
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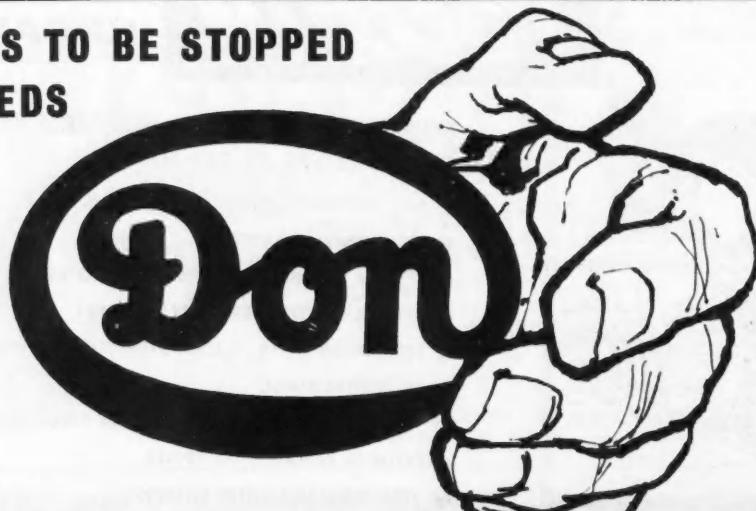
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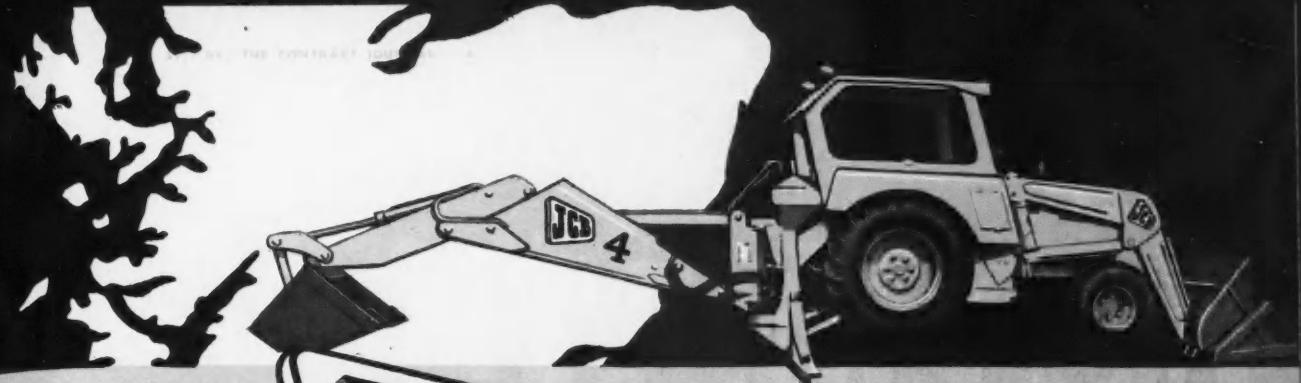
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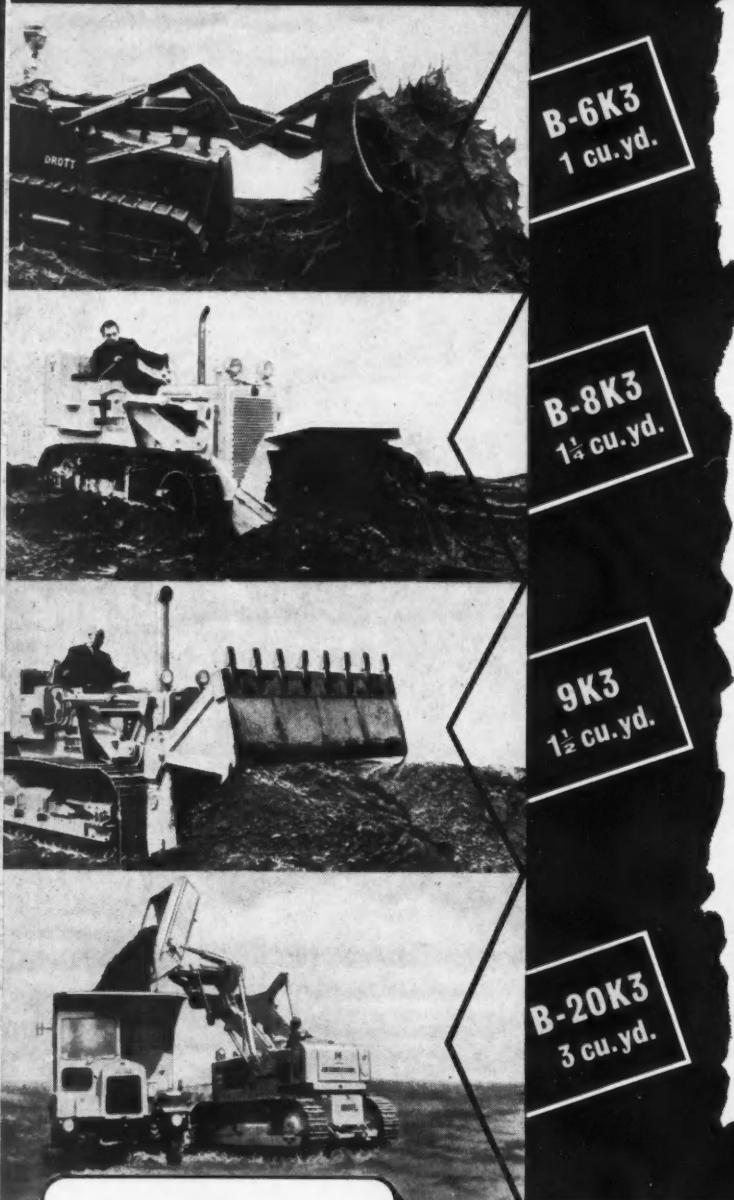
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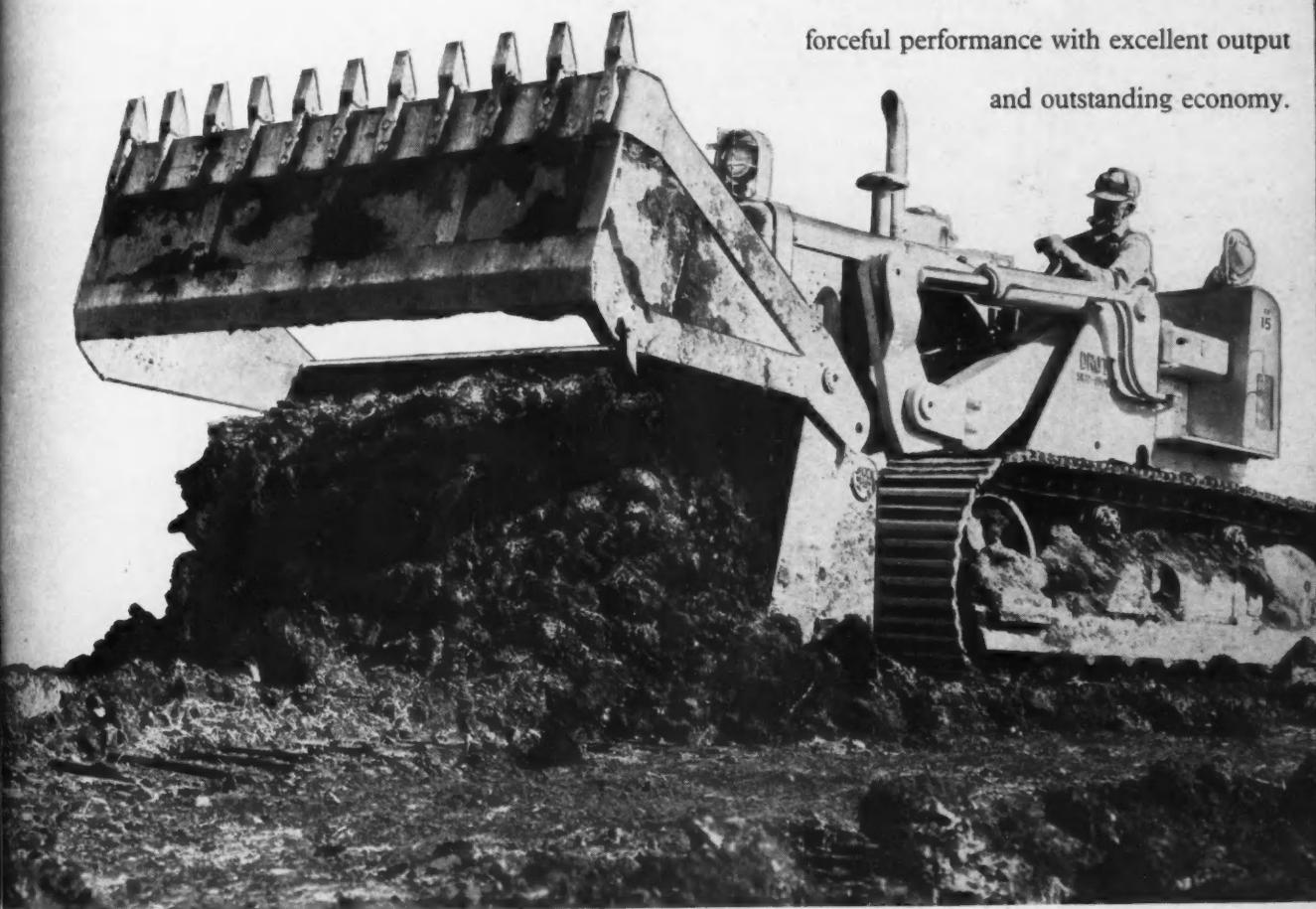


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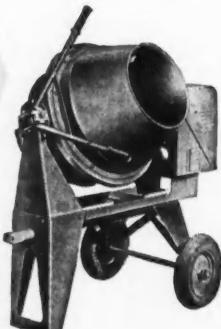
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*James Capewell
has been with
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five years.
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and has a seven-
year-old girl.
His hobby is sport.*



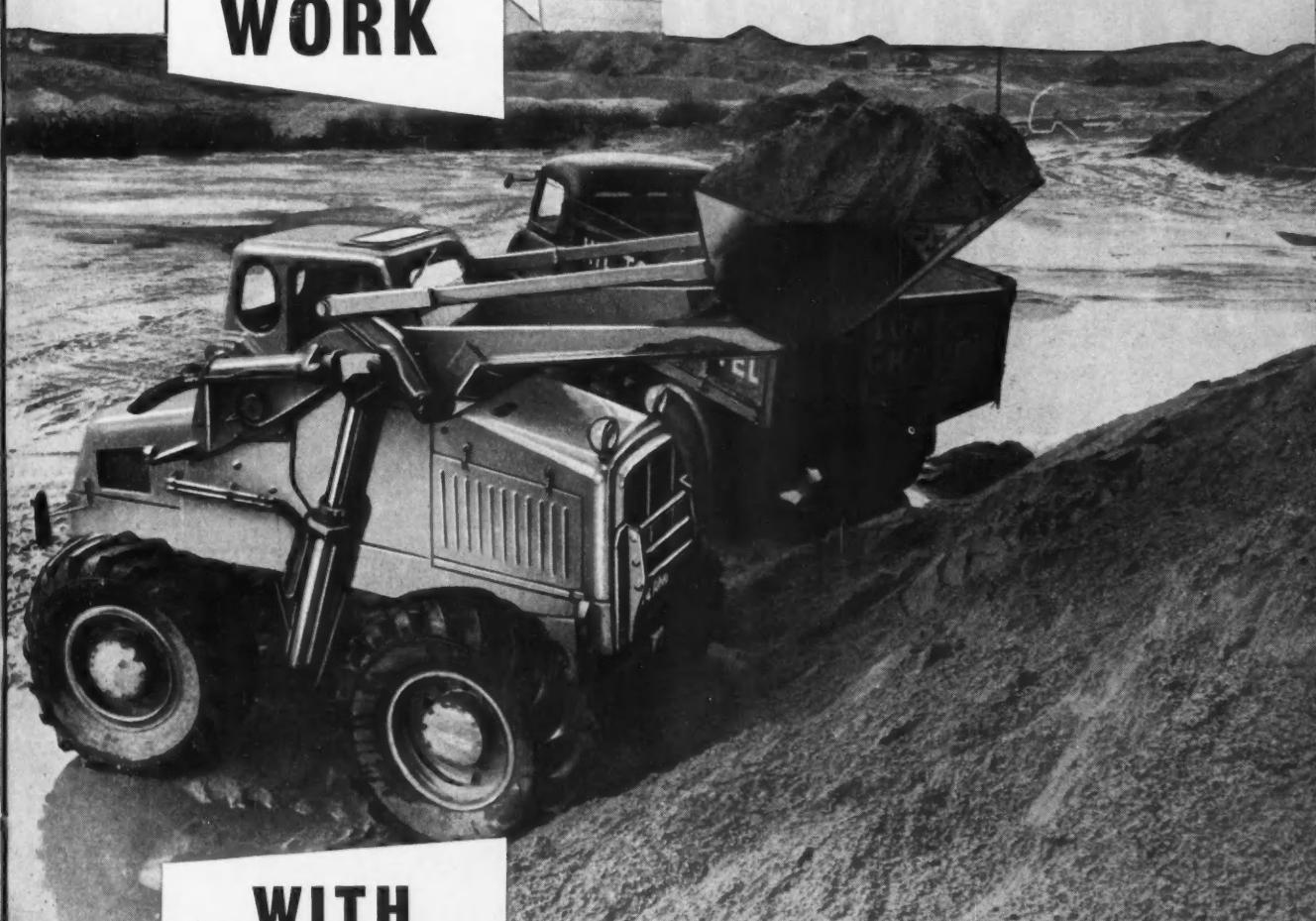
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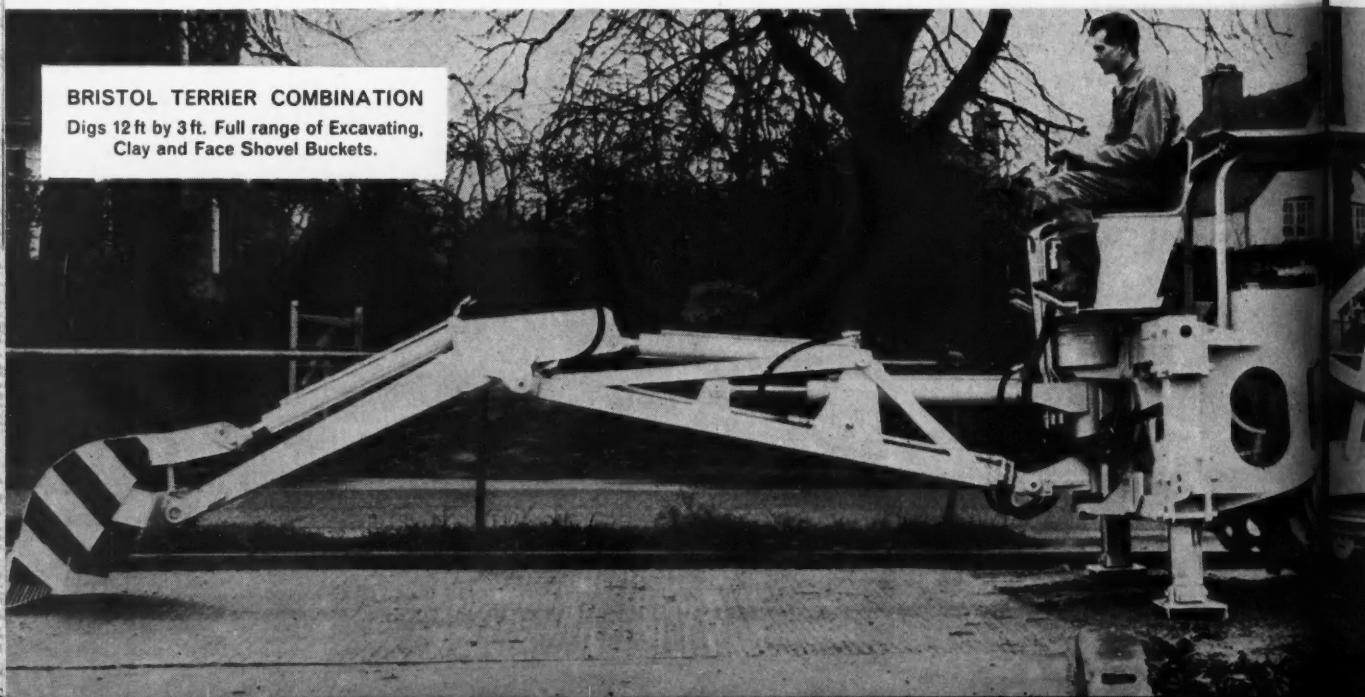


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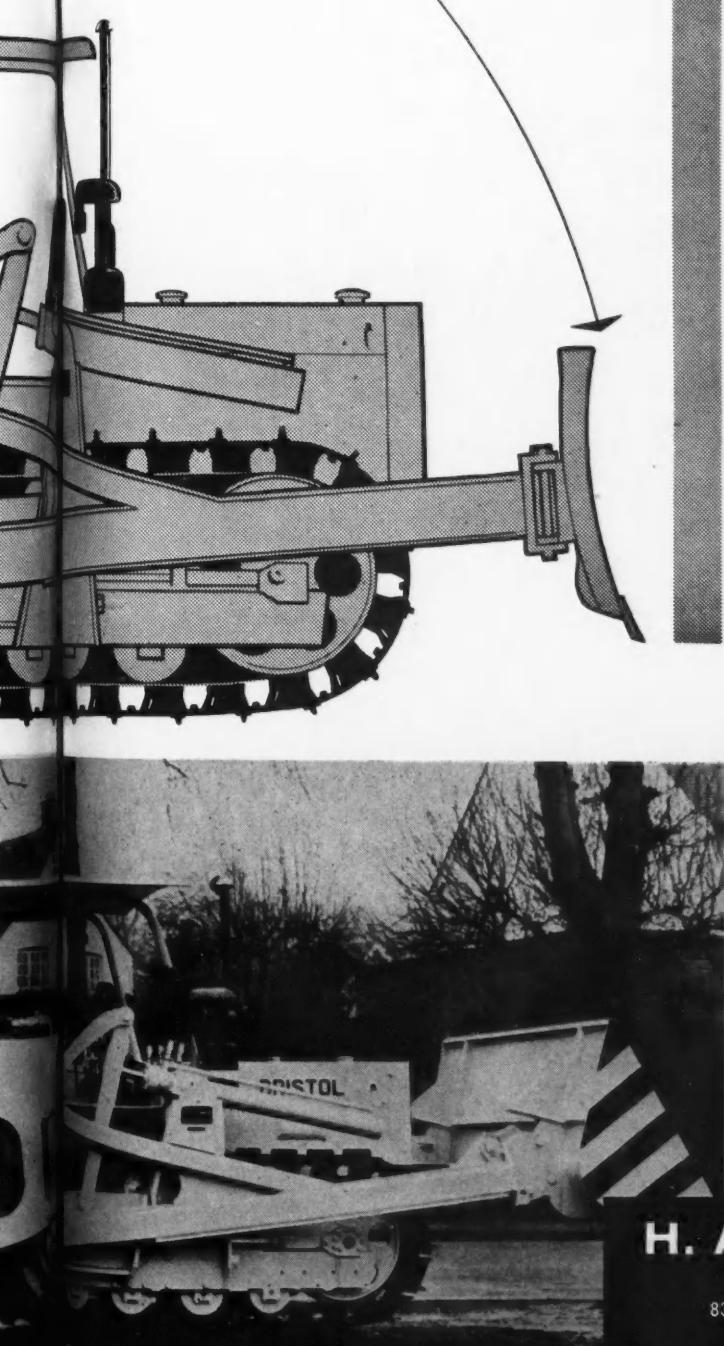
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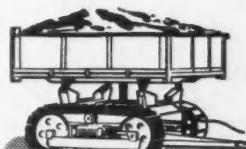
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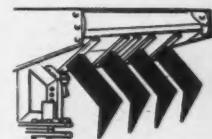
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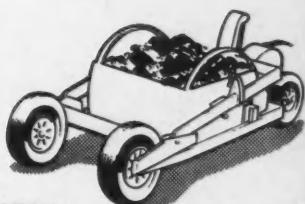
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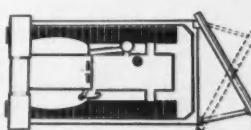
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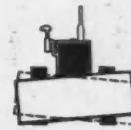
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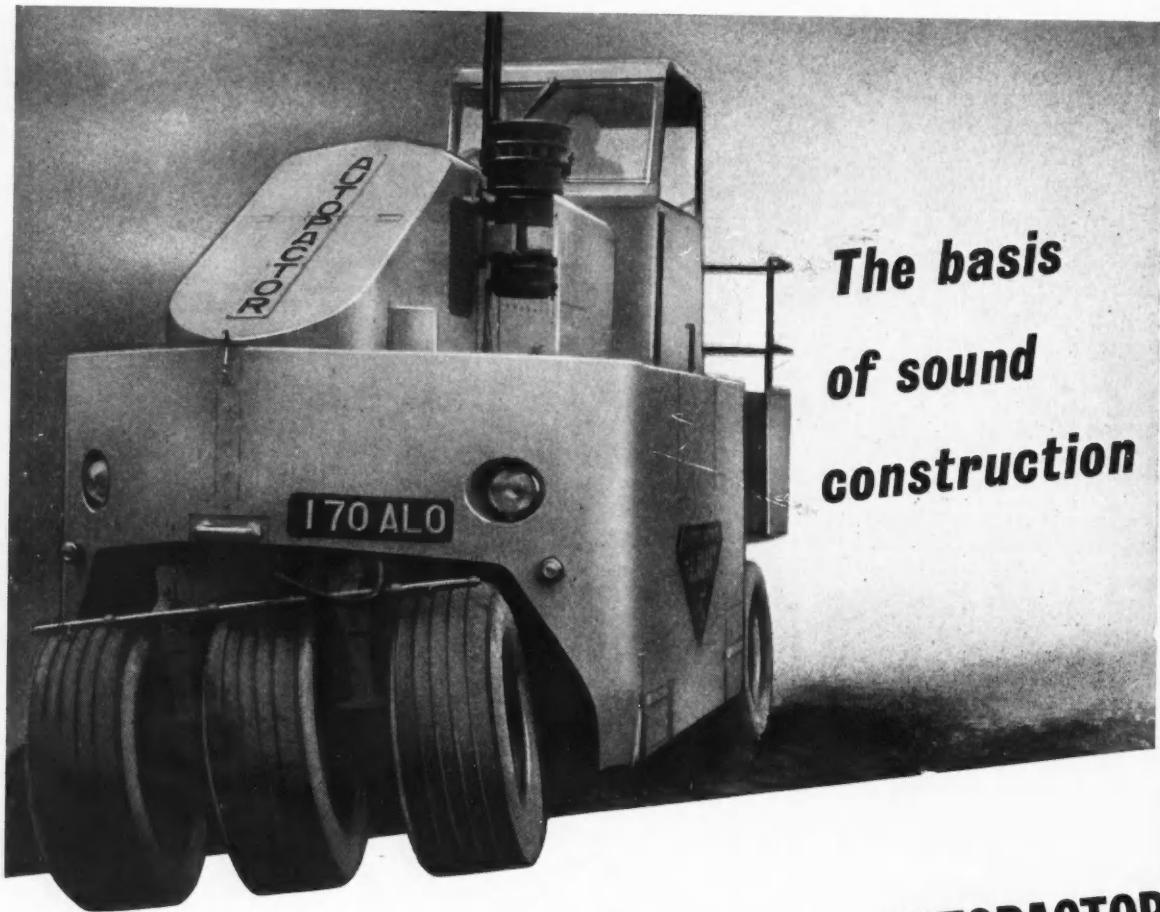
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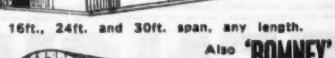
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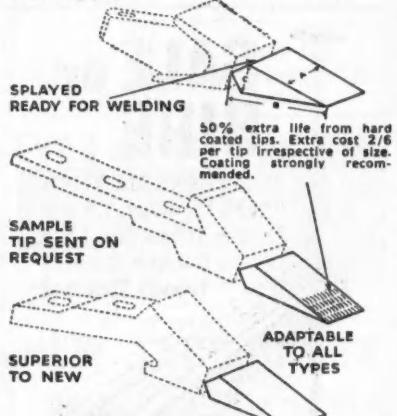
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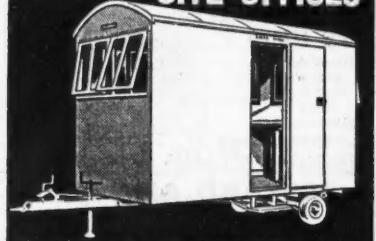
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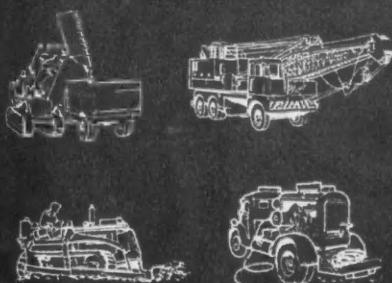
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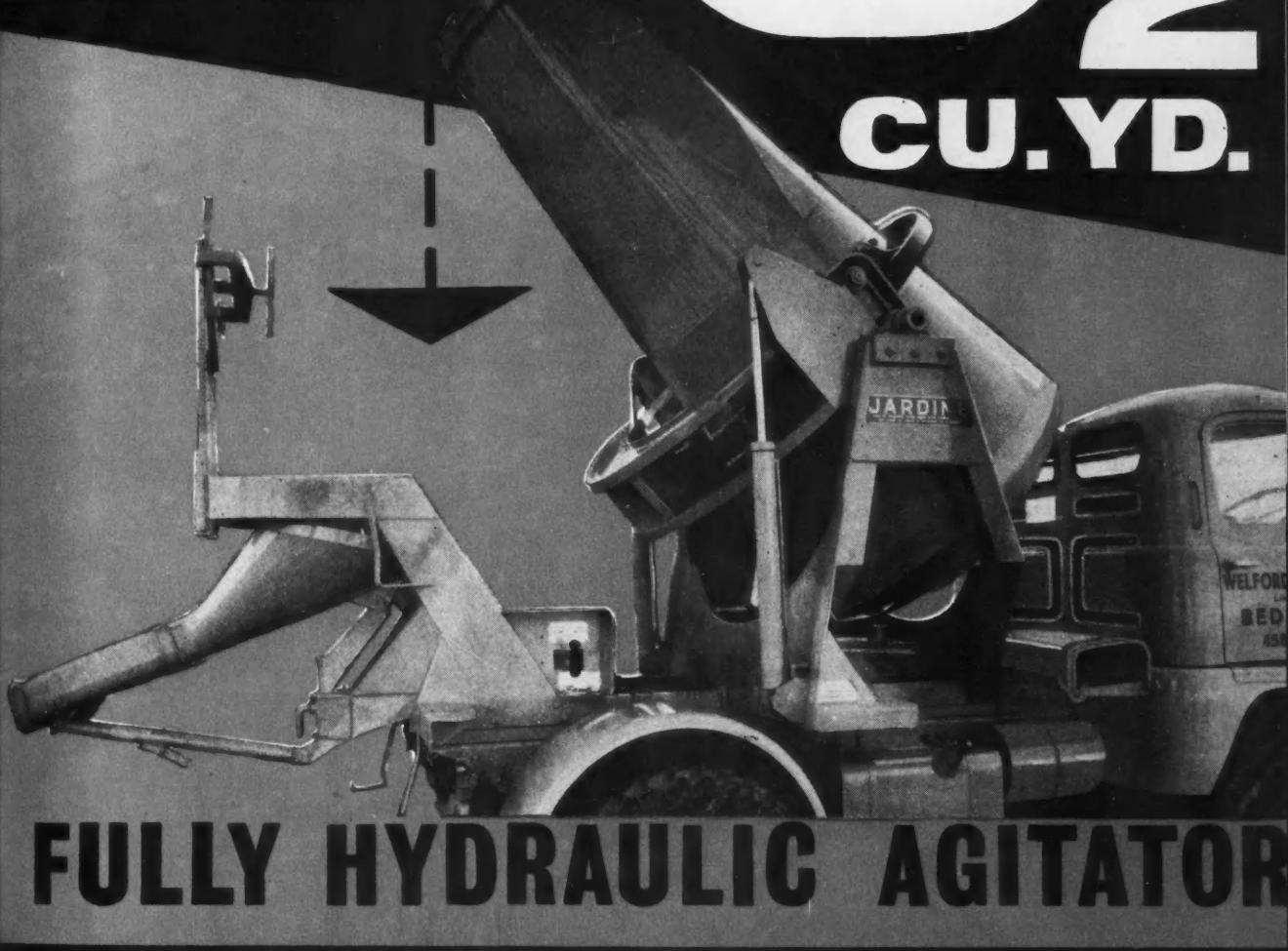
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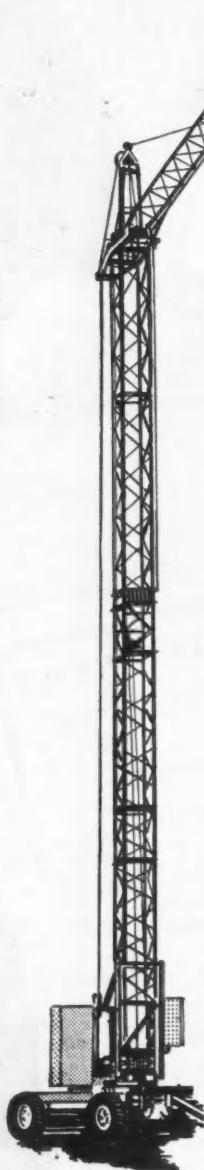
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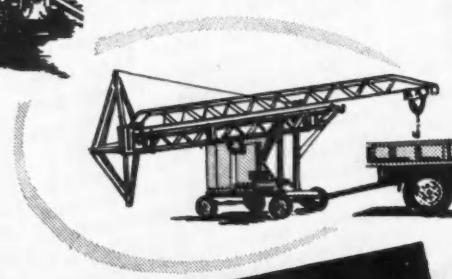


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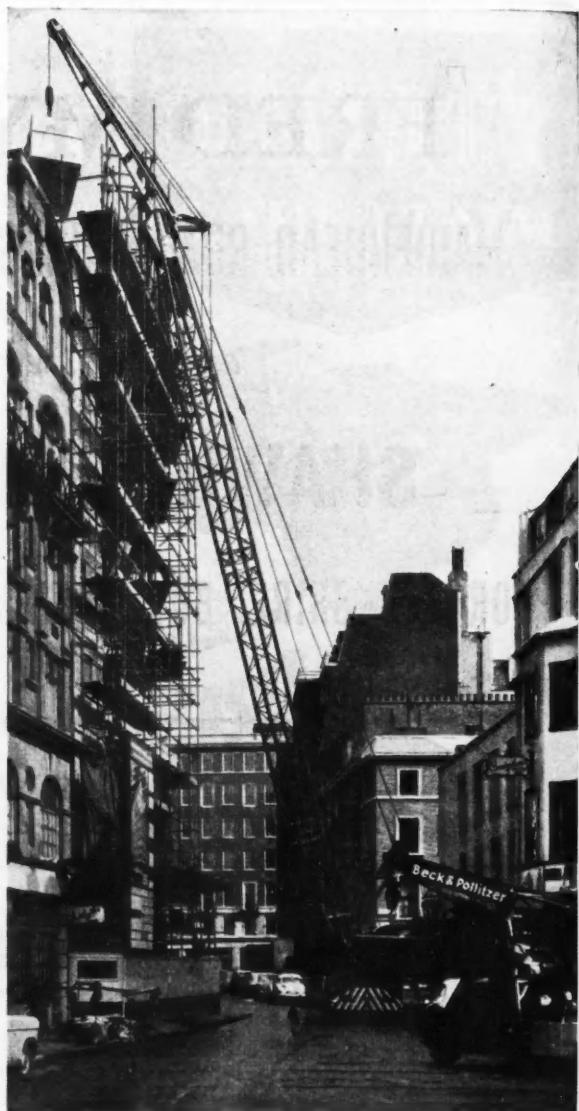
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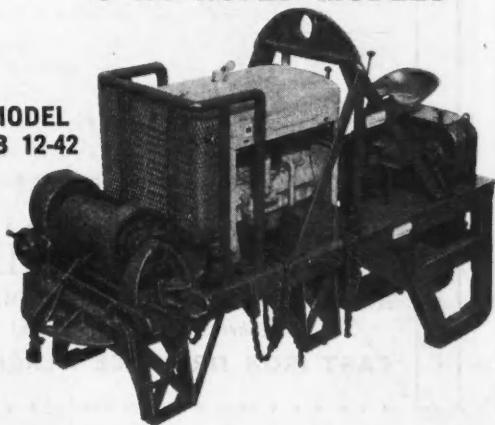
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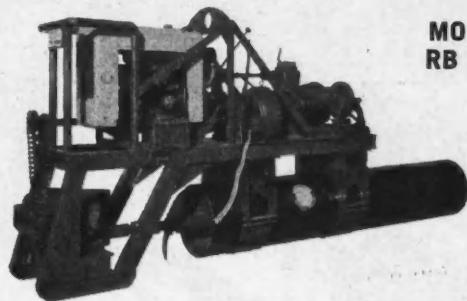
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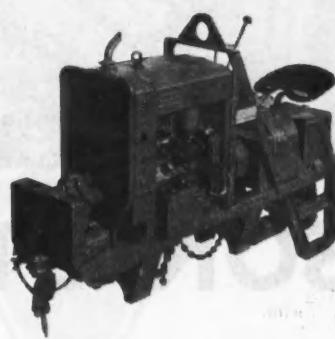
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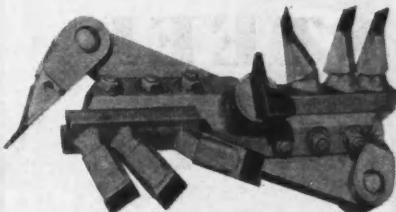
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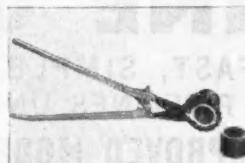
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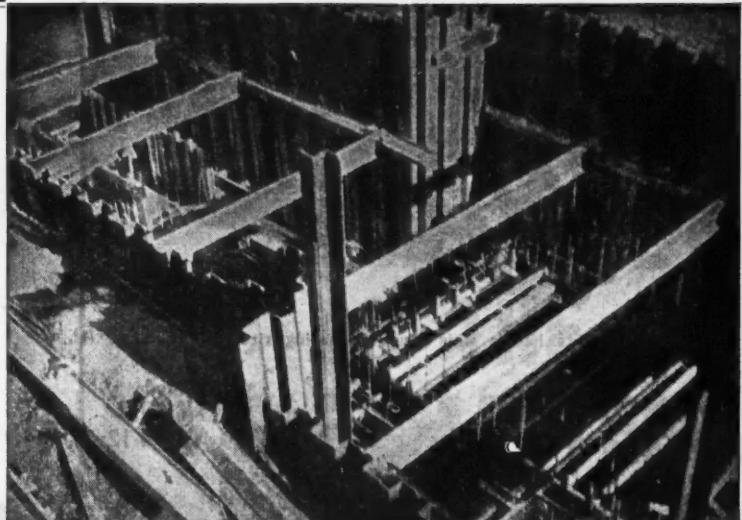
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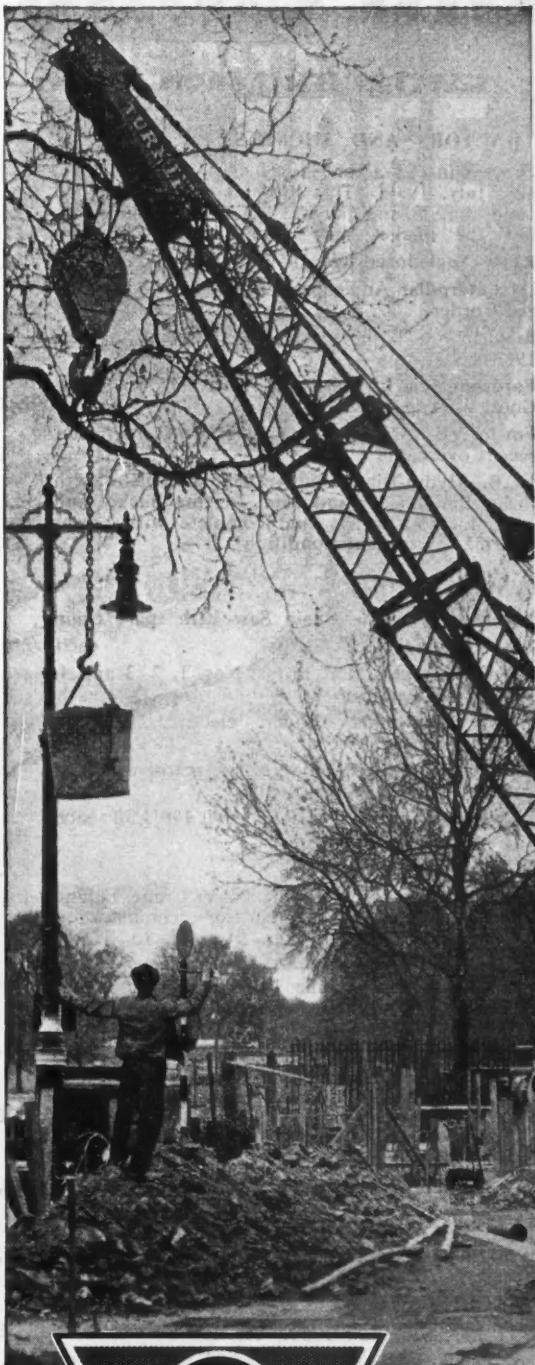


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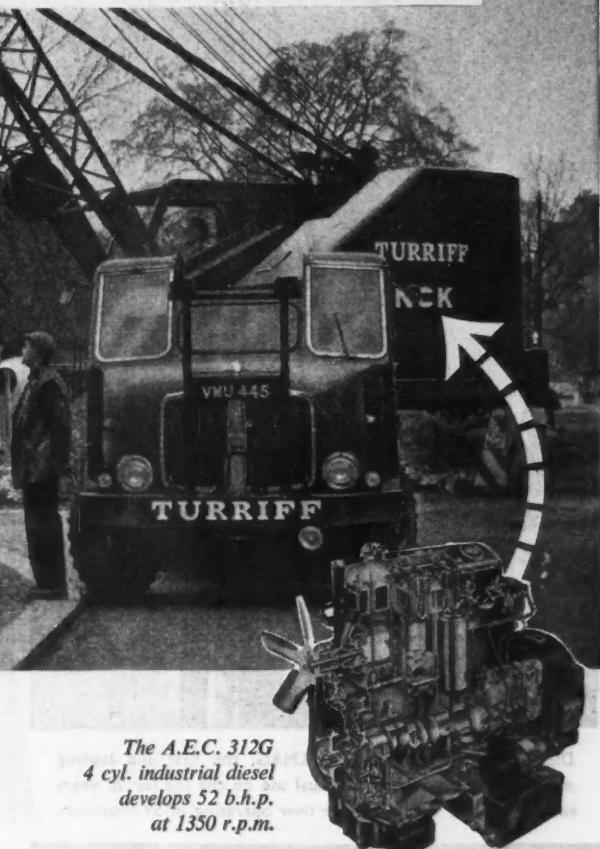
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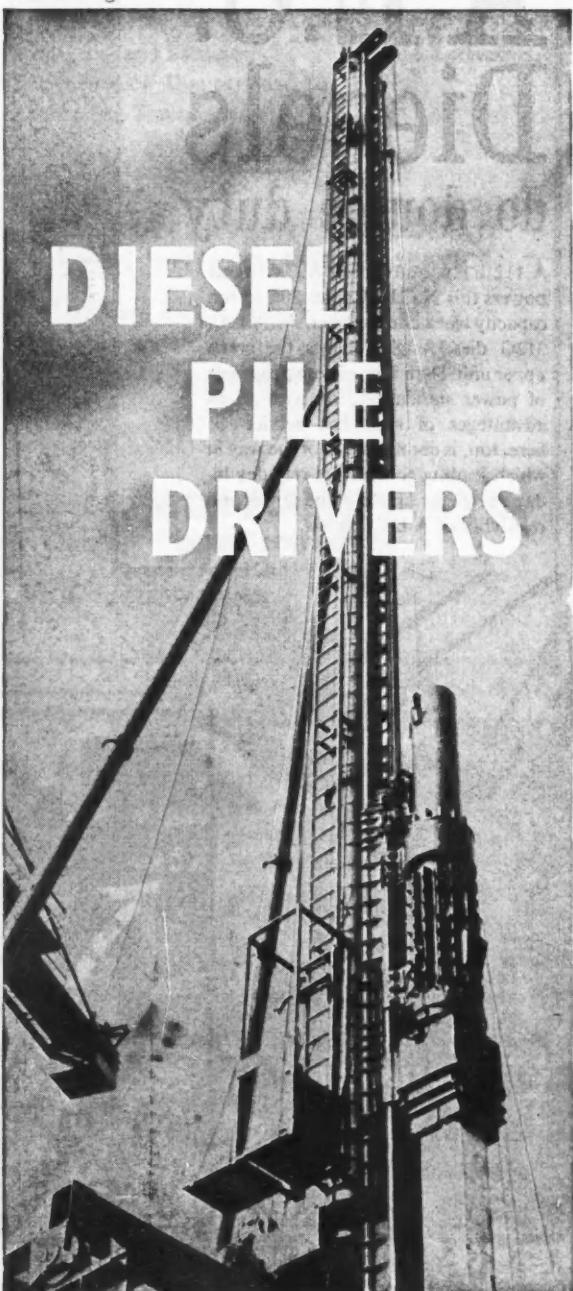
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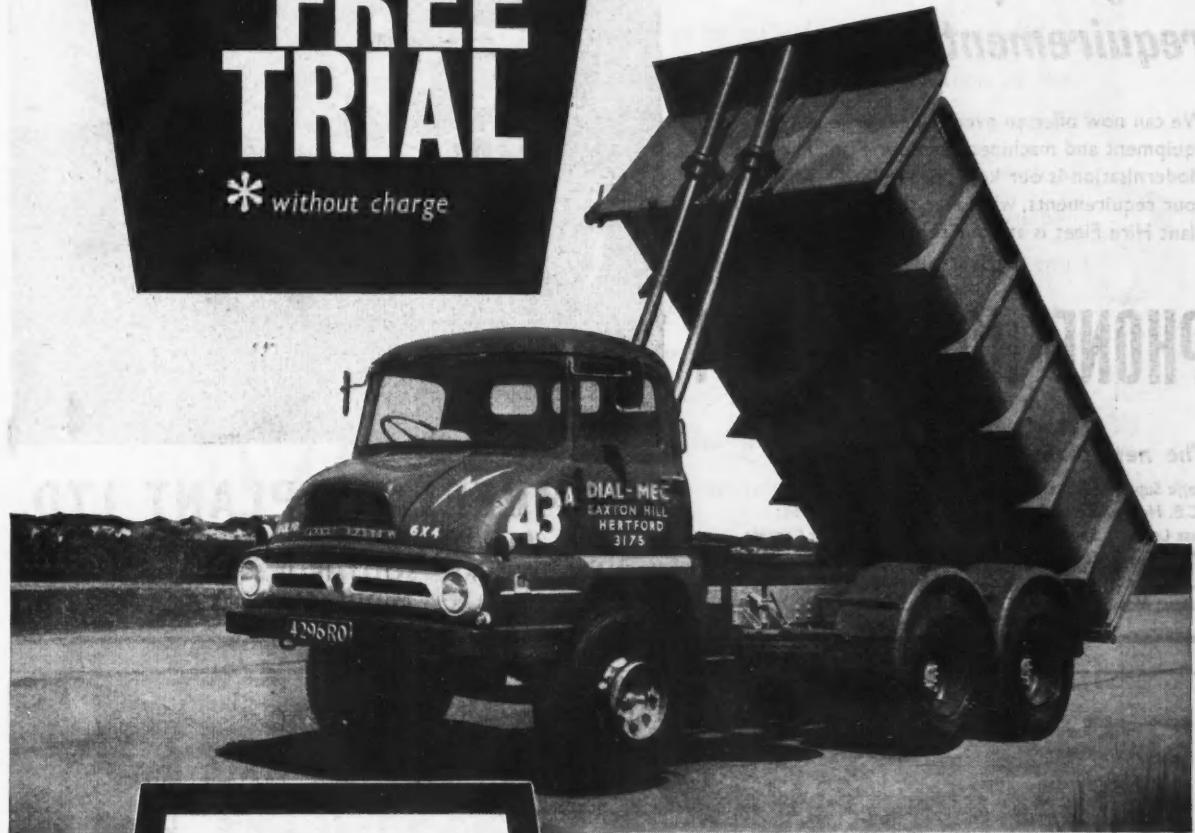


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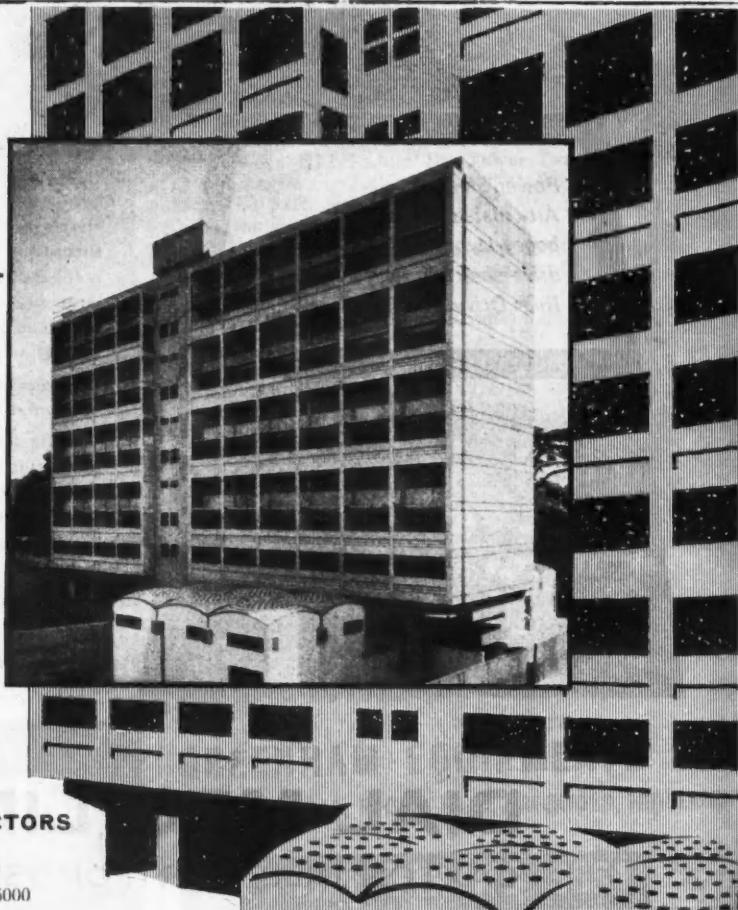
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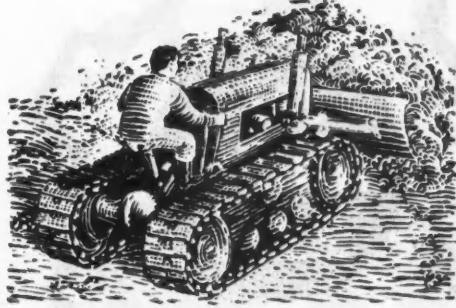


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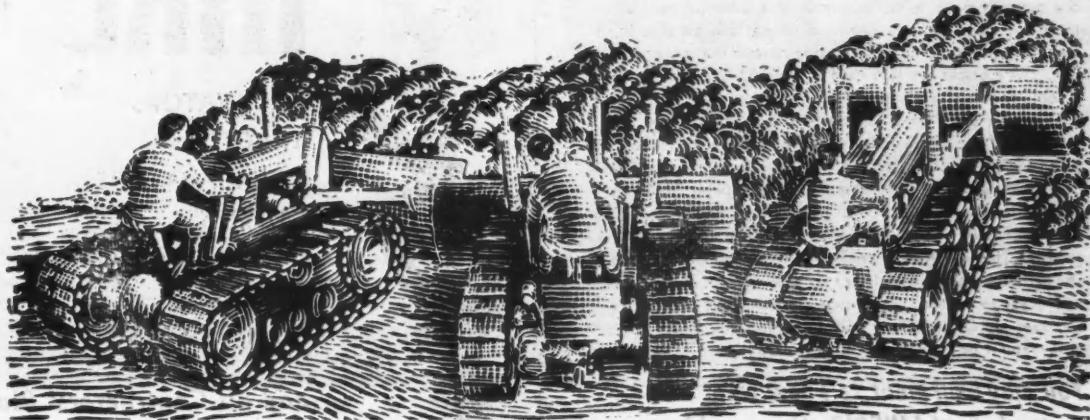




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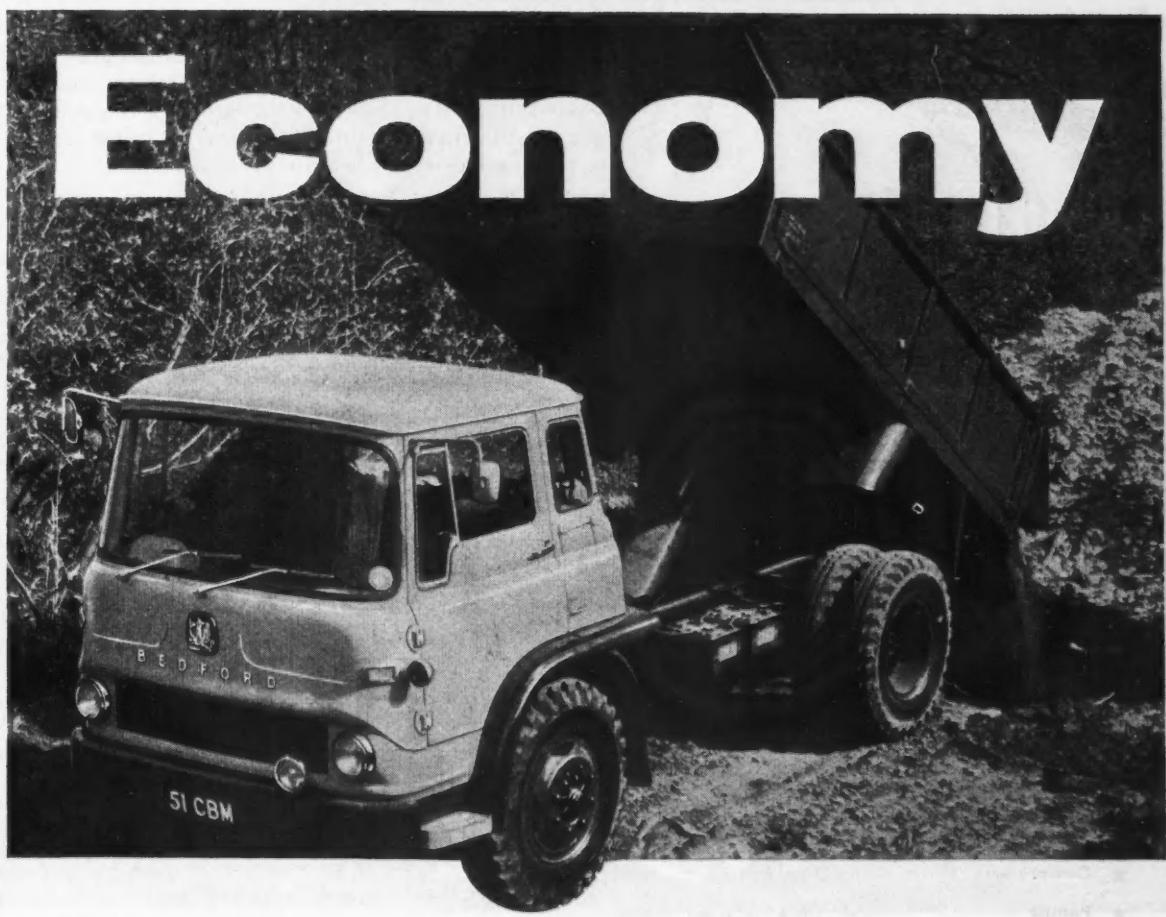
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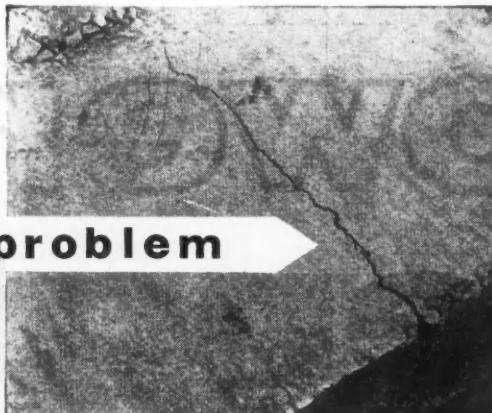
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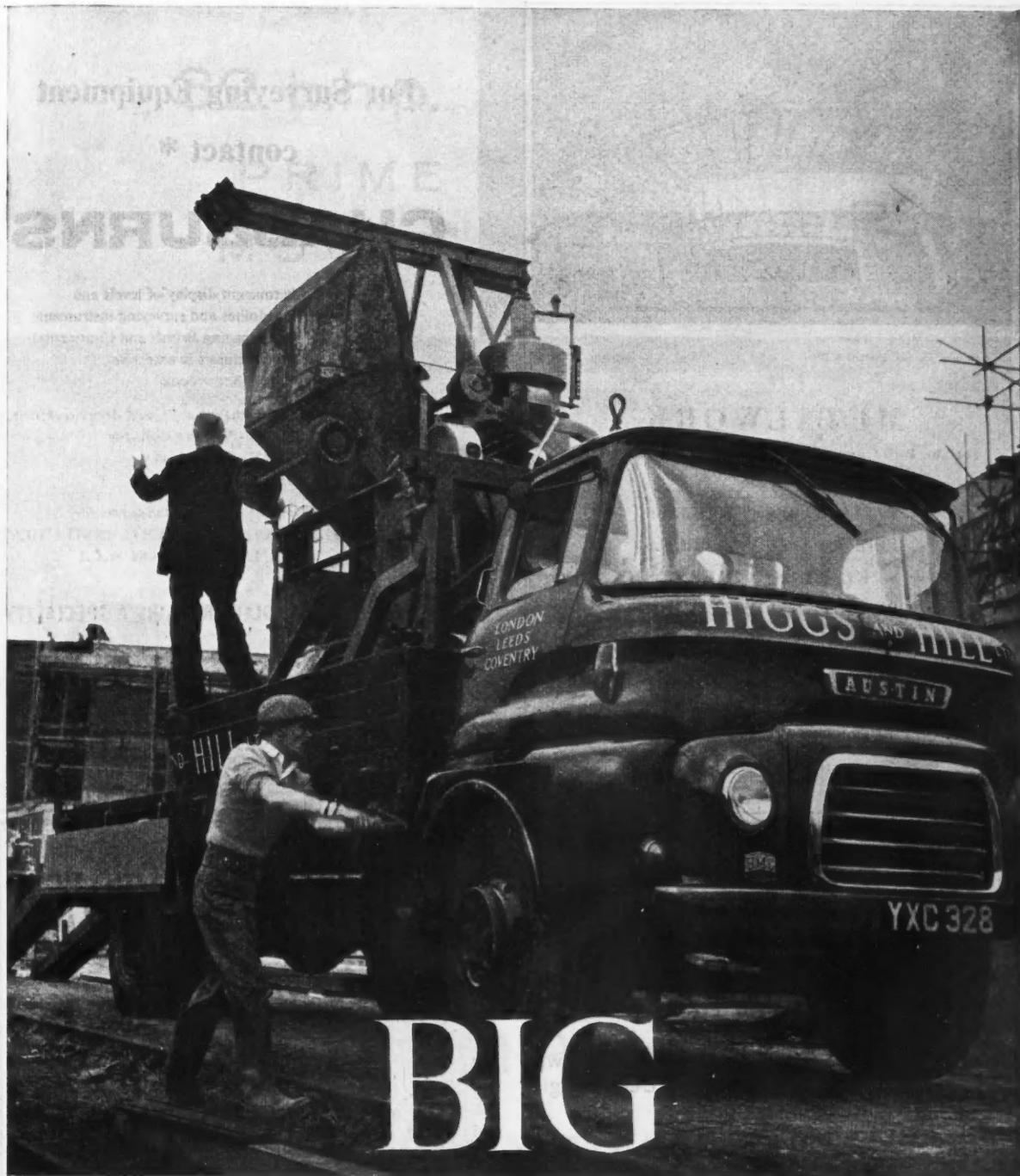
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The cracking of concrete rafts in the early stages of setting is always a problem. The concrete is at its weakest, and is contracting rapidly over a rough surface. Cracks are bound to form, unless friction between slab and base can be reduced. The short answer is an interlayer thin enough to transmit the load to the base and with enough "slip" to cut friction to a minimum.



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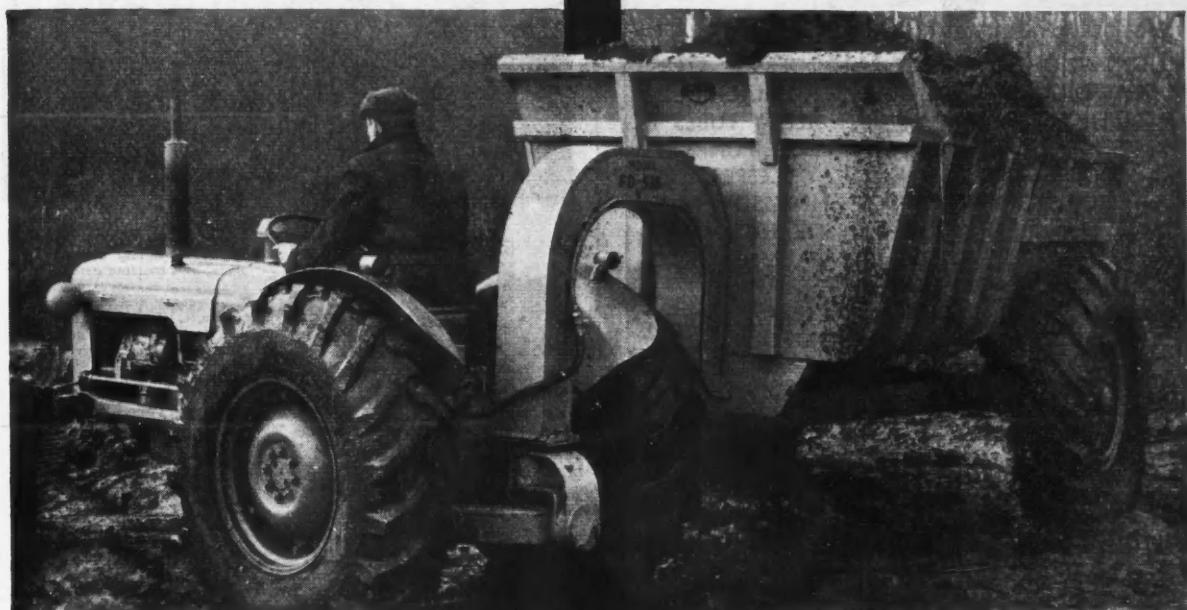
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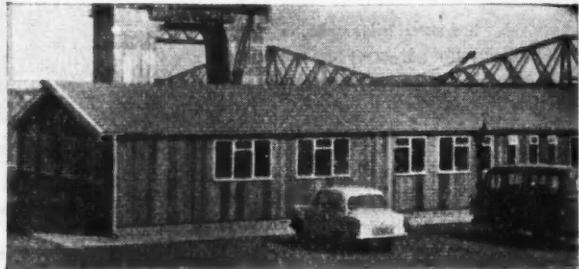
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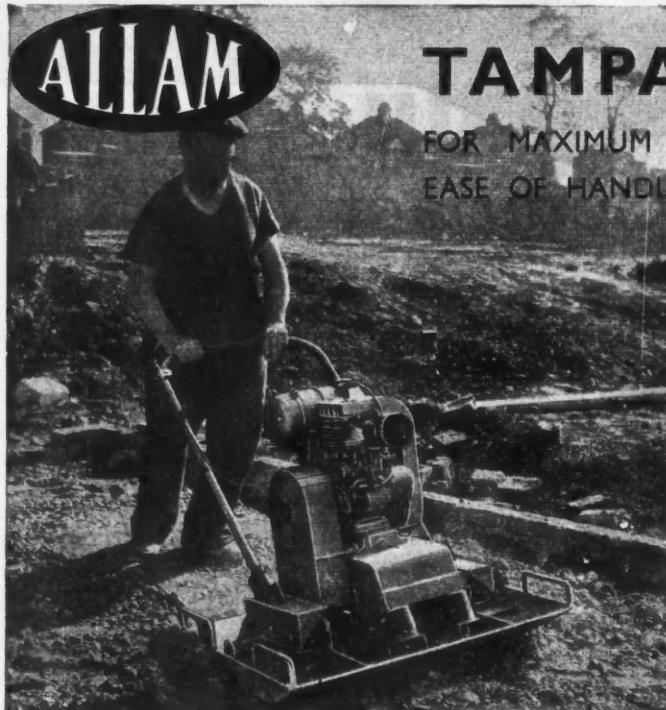
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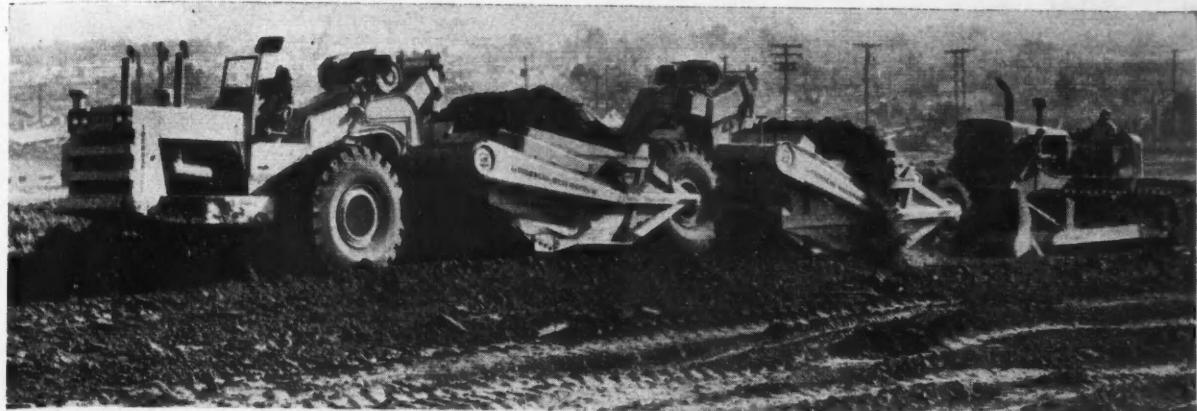
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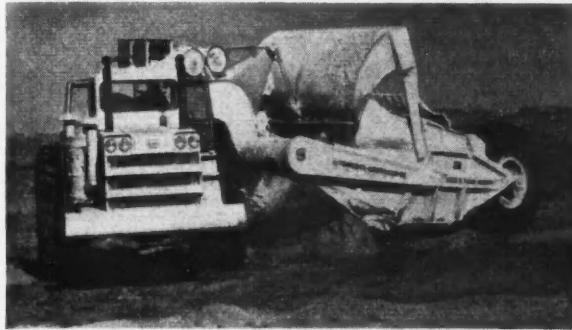
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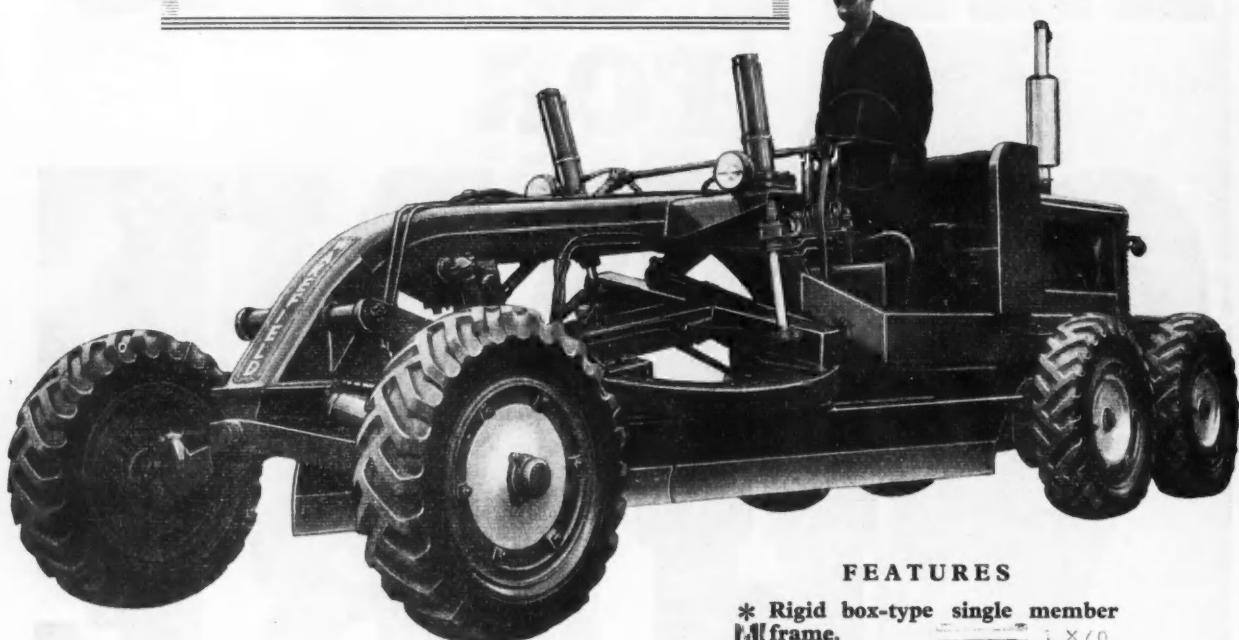
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- * Rigid box-type single member frame.
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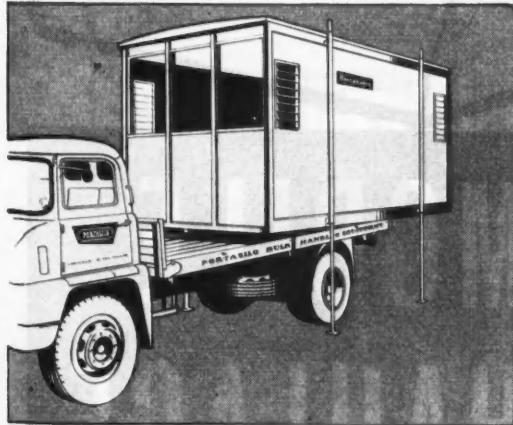
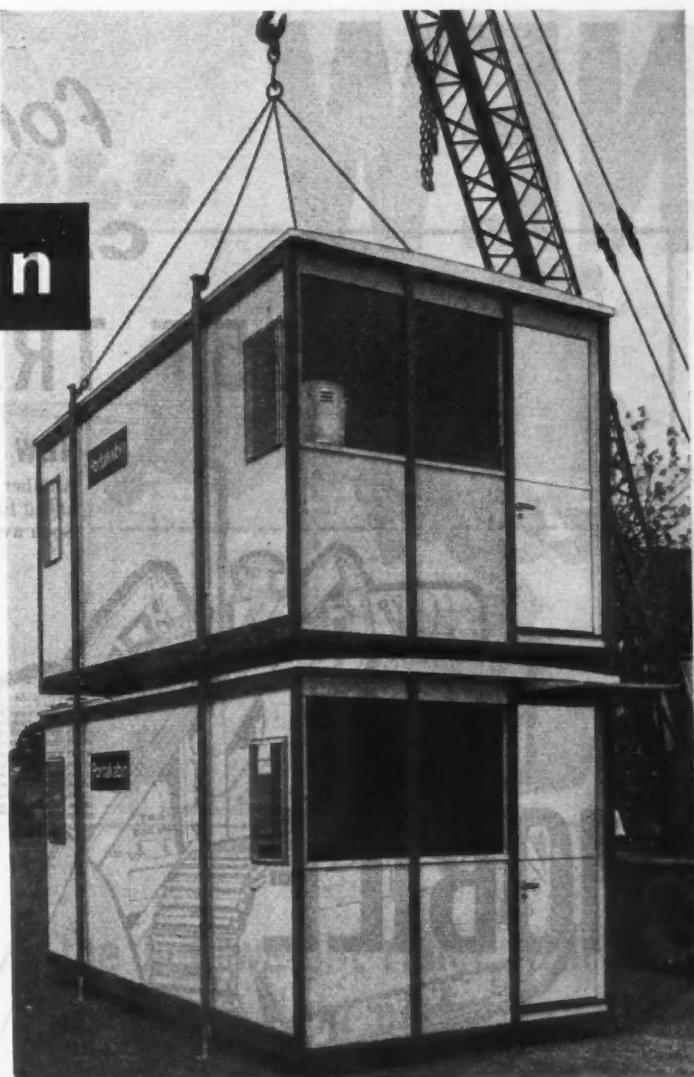
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The 16' · 0" x 8' · 0" Portakabin provides a new concept in portable site accommodation

Covered by Patent Applications

PORTABILITY

Arrives on site fully equipped and ready for immediate occupation.

"Lodastrut" telescopic legs enable rapid loading and off-loading by one man.

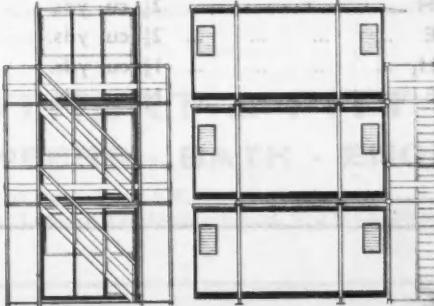
Quick attachment of sling for lifting by crane.

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Can be stacked up to 3 high on confined sites.

"Lodastrut" legs take standard scaffold fittings for tying into adjacent Portakabins or buildings.

Can be adjusted to allow for variation in ground level.



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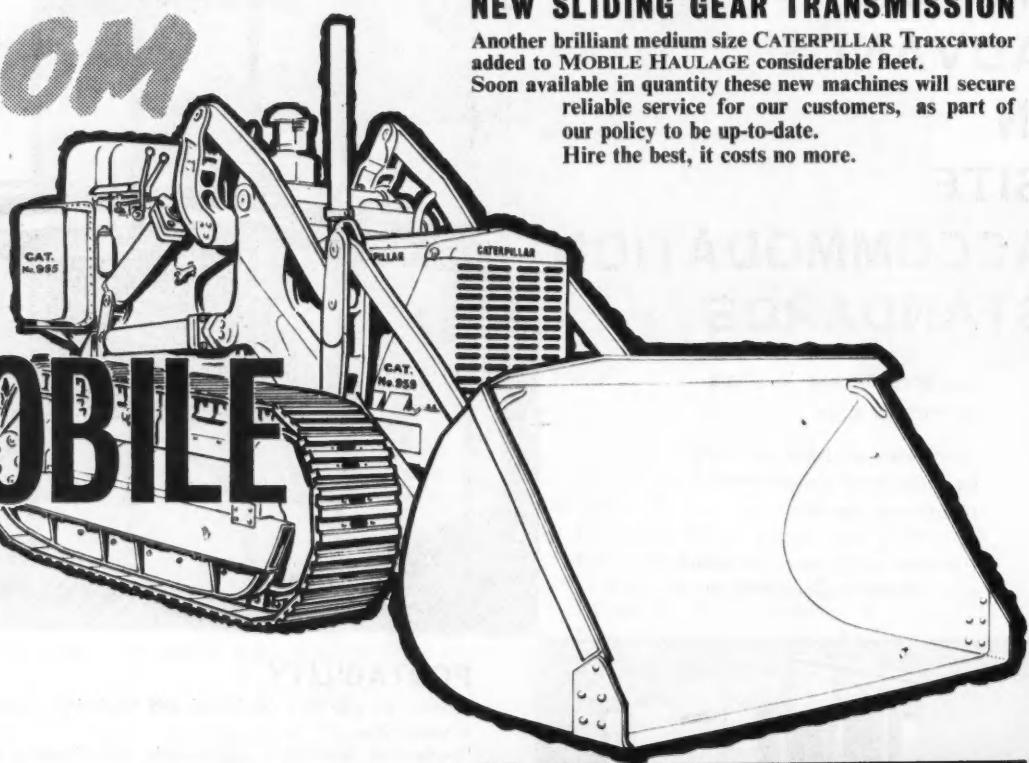
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<i>Self-propelled 32R</i>	<i>Self-propelled, hand guided 32WD</i>	<i>Self-propelled 42RD (with cab)</i>
<i>Trailer 72T</i>	<i>Hand-propelled 11H</i>	<i>Self-propelled 28R</i>
	<p>the lightweight roller with the heavyweight performance</p>	
<i>Trailer 54T</i>		
	<p>Throughout Britain and in many countries abroad "Vibroll" vibrating rollers built by Stothert & Pitt are being used to compact such varied materials as sand, gravel, ballast, ashes, asphalt, tarmacadam, non-cohesive soils and dry mix concrete — with an efficiency unattainable with heavy deadweight rollers. Independent tests have shown that the "Vibroll" gives a better performance than a very much heavier deadweight roller; for example a 17½ cwt. "Vibroll" tandem vibrating roller needed less passes on "hot mix" to achieve the compaction obtained by a 10 ton deadweight roller. This is because the degree of compaction by a deadweight roller decreases rapidly with depth whereas the vibrating principle of the "Vibroll" creates a wide, deep volume of moving materials ensuring uniform compaction to a great depth.</p> <p>The illustrations on this page show a selection from the range which extends from an 11H hand-propelled trench roller to a 72T trailer model. Please write for further details.</p>	
<i>Self-propelled, hand guided 28W</i>		
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David Brown have long experience in the field of tractor design.

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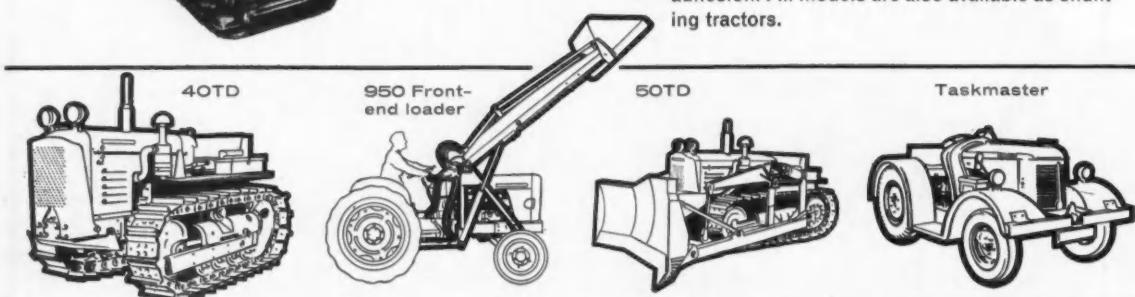
The 50TD: 50 b.h.p. 6-cylinder diesel; maximum drawbar pull 12,000 lb; range of attachments includes angledozer and hydraulic ripper. Special version available for refuse control.

The 50TD Shovel: Bucket capacity 1 cubic yard; loading cycle 5.6 secs. with maximum lift of 10 ft. 6 in.

The 40TD: This latest addition to the David Brown range supersedes the well known 30TD crawler tractor, extensively used by contractors and municipal authorities. 42.5 b.h.p. 4-cylinder diesel; range of attachments includes angledozer and hydraulic ripper. Special version available for refuse control.

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The Taskmaster: Large numbers of these tractors are employed on general trailer haulage in a wide range of industries. Models are available with torque converter for smooth take-off under heavy load and with twin rear wheels for maximum adhesion. All models are also available as shunting tractors.



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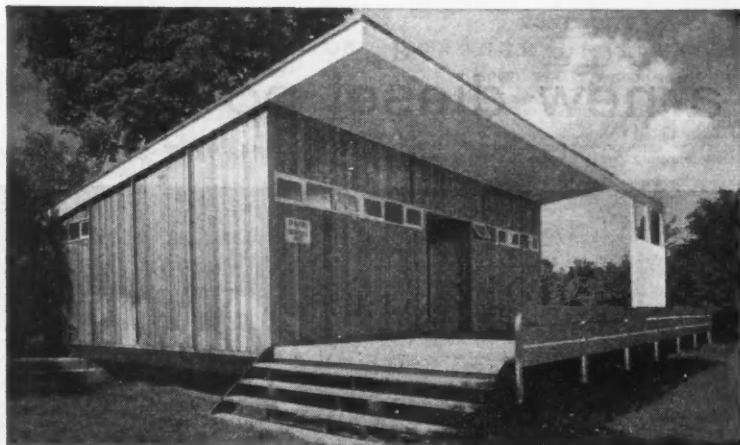
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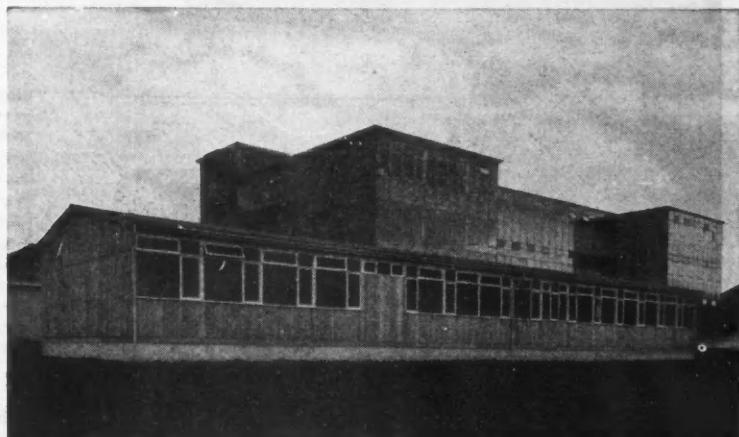
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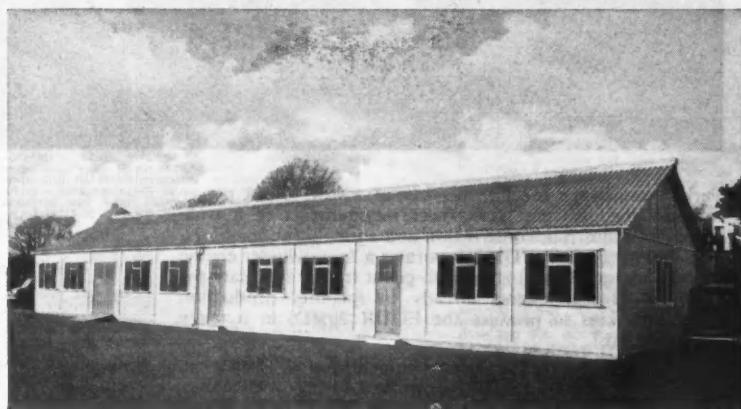
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CRICKET PAVILION, WEST HARNHAM, SALISBURY.
Photograph by courtesy of The City Engineer, City of New Sarum.



TOTALY CLASSROOMS, SPEEDWELL SECONDARY BOYS' SCHOOL
Photograph by courtesy of The Chief Education Officer, City & County of Bristol.



STORAGE BUILDING AT TENBY, PEMBS.
Photograph by courtesy of The South Wales Electricity Board (West Wales Area).

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CONTRACTS

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CONSTRUCTION OF SEWERS.

TENDERS will shortly be invited from a select list of applicants for the CONSTRUCTION of approx. 1,200yd. of SEWER at a maximum depth of 14ft. and of diameters 39in. to 9in.

Hazards due to the proximity of services and old properties, together with the cost of removal, only limited access is available. The Board will wish to be fully satisfied as to the competence of contractors to undertake work of this category.

Contractors wishing to be included in the list are invited to submit their names, together with evidence of their competence to undertake works of this nature, to the CHIEF ENGINEER, Sewerage Board Offices, Bellozanne Road, St. Helier, Jersey, C.I., on or before the 7th AUGUST, 1961.

No undertaking is given that all applicants, or any one, will be invited to tender.

STATES OF JERSEY.
SEWERAGE BOARD.

CONTRACT NO. 44.

TENDERS will shortly be invited from a select list of contractors for the BUILDING and CIVIL ENGINEERING WORK in connection with the Installation of a Vacuum Filtration Plant at Bellozanne.

The work comprises the Excavation of approx. 850 cu. yd. of Rock Reinforced Concrete Foundation, and the Construction of a Steel-framed Asbestos-Cement Clad Building containing approx. 35,000 cu. ft.

It is expected that Tender documents will be ready in mid-September, and that the work will start at the end of November next.

The work will be under the supervision of MESSRS. J. AND D. M. WATSON, Consulting Engineers to the Board.

Contractors wishing to be included in the list are invited to submit their names to the CHIEF ENGINEER, Sewerage Board Offices, Bellozanne Road, St. Helier, Jersey, C.I., on or before the 7th AUGUST, 1961.

No undertaking is given that all applicants or any one will be invited to tender.

COUNTY BOROUGH OF SOUTHPORT.

The Council invite TENDERS for the ERECTION of HOUSES IN TRADITIONAL BRICK CONSTRUCTION on the STAVELEY ROAD HOUSING SITE, AINSDALE.

The Bills of Quantities may be obtained from, and the Drawings and Conditions of Contract inspected at, the Borough Architect and Town Planner, Office's Department, 99-105 Lord Street, on payment of Two Guineas which sum will be refunded on receipt of a bona-fide Tender.

Tenders to be delivered to the undersigned not later than 28th AUGUST, 1961.

R. EDGAR PERRINS,
Town Clerk.

COUNTY BOROUGH OF HUDDERSFIELD.

HOME FOR AGED PEOPLE,
REINWOOD, HUDDERSFIELD.

FIRM PRICE TENDERS are invited for the FOLLOWING ITEMS:
Supply and Installation of Kitchen Equipment.
Supply and Fixing of Metal Windows.
Electrical Installation.
Installation of Passenger Lift.

Forms of Tender, Specifications and Drawings will be available shortly. Contractors wishing to tender for any of the items should apply to the Borough Architect, High Street Buildings, Huddersfield. R.I.B.A. Form of Contract.

The Corporation do not bind themselves to accept the lowest or any Tender.

HARRY BANN,
Town Clerk.

Town Hall,
Huddersfield.

BOROUGH OF HERTFORD.
SELL FARM ESTATE.

CONTRACT FOR THE CONSTRUCTION OF 71 DWELLINGS, 52 GARAGES, WITH DRAINAGE AND SITE WORKS.

The CORPORATION propose shortly to invite TENDERS from a selected list of contractors for the ABOVE WORKS, which consist of: 12 Houses in three Blocks; 11 Three-storey Houses in two Blocks; 48 Flats in three Blocks; 52 Garages in two Blocks.

Drawings showing details of the work have been prepared by the Corporation Architects, MESSRS. HOWES AND JACKMAN, F.R.I.B.A., and Bills of Quantities are in preparation by MESSRS. E. C. HARRIS AND PARTNERS.

Contractors who wish their names to be considered are requested to communicate with the undersigned not later than 3rd AUGUST, 1961, stating their general capacity to undertake the work and with details of recent works of a similar nature executed.

The Tenders are required to be submitted early in OCTOBER, 1961.

A. I. CLOUGH,
Town Clerk.

The Castle,
Hertford, Herts.
11th July, 1961.

HAYDOCK URBAN DISTRICT COUNCIL.

SEWERAGE.

TENDERS are invited on a FIXED-PRICE BASIS from experienced contractors for the CONSTRUCTION of approximately 4½ miles of SEWERS of varying sizes, up to 48in. in diameter, together with Storm Water Overflow, Manholes, and other appurtenant Works.

Drawings may be inspected, and the Contract documents obtained, at the offices of the Engineers, MESSRS. CHARLES J. LOMAX AND SON, Chartered Civil Engineers, 68 Barton Arcade, Deansgate, Manchester, 3, on payment of a deposit of Five Guineas (cheques only), made payable to the Haydock Urban District Council, which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Sealed Tenders, endorsed "Tender for West End Sewerage Scheme," must be returned to the undersigned not later than Noon on THURSDAY, 24th August, 1961.

The lowest or any Tender will not necessarily be accepted.

C. LEDGER,
Clerk of the Council.

Council Offices,
Church Road,
Haydock,
Lancashire.
7th July, 1961.

THE CONTRACT JOURNAL

CONTRACTS

BOROUGH OF MIDDLETON.
PLAYING FIELD CONSTRUCTION.

TENDERS are invited for the CONSTRUCTION of approx. seven and a half acres of PLAYING FIELDS at BOWLEE as second stage development of a larger scheme.

The works involve Soil Stripping, Excavation and Levelling, Subsoil Removal, Replacement of Topsoil, Subsoil Drainage, Topsoil Cultivation, Seedbed Preparation and Sowing.

Drawings may be inspected and copies of the Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained at the Office of the Borough Surveyor, Town Hall, Middleton.

Tenders, endorsed "Playing Fields—Bowlee," to be submitted to the undersigned not later than Noon on SATURDAY, 5th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

F. JOHNSTON,
Town Clerk.

Town Hall,
Middleton,
Near Manchester.
10th July, 1961.

BOROUGH OF MIDDLETON.
PLAYING FIELD CONSTRUCTION.

TENDERS are invited for the CONSTRUCTION of approx. three acres of PLAYING FIELDS at MOSS LANE, ALKIRKINGTON, Middleton.

The works involve Breaking up the existing Subsoil and the Removal of Stones and Brick Hardcore brought to the surface, Subsoil Cultivation, Supply and Spreading of Topsoil, Subsoil Drainage, Topsoil Cultivation, Seedbed Preparation and Sowing.

Drawings may be inspected and copies of the Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained at the Office of the Borough Surveyor, Town Hall, Middleton.

Tenders, endorsed "Moss Lane Playing Field," to be submitted to the undersigned not later than Noon on SATURDAY, 5th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

F. JOHNSTON,
Town Clerk.

Town Hall,
Middleton,
Near Manchester.
10th July, 1961.

BOROUGH OF MIDDLETON.
ASPHALT SAND CARPET SURFACING.

TENDERS are invited for SUPPLYING and LAYING approx. 4,600 sq. yds. of HOT ROLLED ASPHALT (Skin Coat) suitable for application to set paving by means of mechanical spreader on various ROADS within the Borough.

Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Engineer, Town Hall, Middleton, on payment of a deposit of Two Guineas (cheques to be made payable to Middleton Corporation), which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes, endorsed "Tenders for District Roads Resurfacing," must be received by the undersigned not later than Noon on WEDNESDAY, 9th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

F. JOHNSTON,
Town Clerk.

Town Hall,
Middleton,
Near Manchester.
July, 1961.

BOROUGH OF MIDDLETON.
TARSPRAYING CONTRACTS, 1961.

TENDERS are invited for the FOLLOWING in connection with the TARSPRAYING of approx. 14,000 sq. yds. during 1961:

- (i) Supply of Premix Basalt/Limestone Chippings.
- (ii) Supply of Tar/Bitumen Binder.
- (iii) Supply of Labour and Plant for the Execution of the Work.

Specifications and Form of Tender may be obtained from the Borough Engineer, Town Hall, Middleton, near Manchester, on payment of a deposit of Two Guineas (cheques to be made payable to Middleton Corporation), which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes, endorsed "Tenders—Tarspraying," must be received by the undersigned not later than Noon on WEDNESDAY, 9th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

F. JOHNSTON,
Town Clerk.

Town Hall,
Middleton,
Near Manchester.
July, 1961.

KINGSWOOD URBAN DISTRICT COUNCIL.

TENDERS are invited for the CONSTRUCTION of 33 GARAGES ON SITES WITH SITE WORKS.

Conditions of Contract, Bill of Quantities and Form of Tender may be obtained from, and Plans and General Conditions of Contract inspected at, the offices of the Engineer and Surveyor, on payment of a deposit of £10 by cheque, refundable on receipt of a bona-fide Tender.

The lowest or any Tender will not necessarily be accepted.

Tender, in envelope provided, by MONDAY, 14th August, 1961, to CLERK OF THE COUNCIL, Council Offices, Kingswood, Bristol.

STAFFORD RURAL DISTRICT COUNCIL.
WESTON-ON-TRENT SEWERAGE AND SEWAGE DISPOSAL WORKS CONTRACT.

Contractors interested in TENDERING for the ABOVE PROPOSED WORKS should apply to H. A. JARVIS, M.I.M.E., M.R.S.H., the Engineer and Surveyor, Stafford Rural District Council, Council Offices, Newport Road, Stafford, not later than JULY 31st, 1961.

A deposit of £2 2s. is required, returnable on receipt of a bona-fide tender document.

The works involved comprise the following—

- (1) Provision and Laying of 1,750yd. of Foul Sewers.
- (2) Construction of Two Pumping Stations.
- (3) Construction of completely new Sewage Disposal Works.

S. COWBURN,
Clerk of the Council.

Council Offices,
Newport Road,
Stafford.
10th July, 1961.

CONTRACTS

BOROUGH OF STAFFORD.
SOUTH WALLS WIDENING.

FIXED-PRICE TENDERS are invited from experienced contractors for the DEMOLITION of BUILDINGS and the WIDENING of 195 lin. yds. of CARRIAGeway from its existing width of 12ft. to a width of 22ft., together with the Provision of Footpaths, Surface Water Drainage, Mass Concrete Retaining Walls, etc.

Tender documents may be obtained on application to T. H. HIGSON, B.Sc., A.M.I.C.E., Borough Engineer and Surveyor, Monks Street, Stafford.

Tenders, in endorsed envelopes, must be delivered to me not later than 10 a.m., 25th AUGUST, 1961.

(Signed) T. BROUGHTON NOWELL,
Town Clerk.

Borough Hall,
Stafford.
12th July, 1961.

BOROUGH OF CHELTENHAM.
THE RUNNINGS—INDUSTRIAL DEVELOPMENT.
CONSTRUCTION OF ACCESS ROAD, FOUL AND SURFACE WATER SEWERS.

TENDERS are invited for the CONSTRUCTION of 1,300 sq. yds. of CARRIAGeway in TARRED MACADAM and ALL-IN-BALLAST FOUNDATIONS, 800 sq. yds. of TARRED MACADAM FOOTPATHS, PROVISION and LAYING of 400 lin. yds. approx. of 9in., 15in. and 18in. diameter GLAZED STONEWARE and CONCRETE PIPE SEWERS, and the CONSTRUCTION of SIX BRICK MANHOLES.

Specifications and Bills of Quantities may be obtained from the undersigned upon payment of a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, together with the original Bills of Quantities enclosed in the envelope provided, are to be returned to the Town Clerk not later than 12 Noon on MONDAY, 21st August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

W. E. C. BIRD,
A.M.I.C.E., M.I.Mun.E.,
Borough and Water Engineer.

P.O. Box 12,
Municipal Offices,
Cheltenham.

BRAINTREE AND BOCKING URBAN DISTRICT COUNCIL.
CODHAM MILL WATER SCHEME.

CONTRACT NO. 5.

The Council will shortly be inviting TENDERS from selected contractors for the CONSTRUCTION of REINFORCED CONCRETE WATER-RETAINING STRUCTURES below and above ground, including class BRICK BUILDINGS, CONCRETE ROADWAYS and ancillary Works, at their CODHAM MILL SITE. The Site will have an output of 60,000 gallons of water per hour. The main structures will be on bored piles that have been sunk under another Contract.

It is expected that ground water will be encountered within two feet of surface level.

Only contractors who are fully experienced in this class of work will be considered. Sub-contracting of the brick buildings will be permitted providing the nominated firm is thoroughly experienced and approved.

Contractors who are desirous of being considered for the selected list should apply, in writing, in the first instance, to the Councillor's Consulting Engineers, MESSRS. HERBERT LAPORTHWAITE PARTNERS, 25 Victoria Street, Westminster, S.W.1.

The Council does not bind itself to accept the lowest or any Tender.

W. BALSON,
Clerk of the Council.

Town Hall,
Braintree.

THURROCK URBAN DISTRICT COUNCIL, ESSEX.

HIGHWAY IMPROVEMENT WORKS.

TENDERS are invited for ROAD RECONSTRUCTION and IMPROVEMENT SCHEMES, comprising the FOLLOWING:

Reconstruction of Feenam Highway, Tilbury—Including Breaking-out the existing Concrete Base, Laying approx. 12,700 sq. yds. new Carrigeway 30ft. wide with 9in. and 7in. Reinforced Concrete Construction, 6in. Dry Lean Concrete Base, Laying new Road Gullies and Connections to existing Surface Water Sewer, Resting of Lamp Standards, approx. 950 sq. yds. Flexible Asphalt Construction at Road Intersections, and ancillary works.

Improvement of Heath Road, Chadwell St. Mary—Including Breaking-out part of existing Construction and Site Clearance, Laying approx. 6,900 sq. yds. new Carrigeway 22ft. wide with 6in. Dry Lean Concrete Base and 2in. Hot Rolled Asphalt Surfacing, Laying new Kerbs, new Footways, new Precast Concrete Paving, Laying in Precast Concrete Slabs, Construction of new Surface Water Drains, together with new Manholes and Road Gullies, Erection of new Lighting Standards, Diversion of Services, and ancillary works.

Improvement of Long Lane, Hayes Thurrock—Including Excavation and Removal of Hedges, Laying approx. 2,500 sq. yds. new Carrigeway 22ft. wide with 10in. Dry Lean Concrete Base and 3in. Hot Rolled Asphalt Surfacing, new Kerbs, new Footways, new Precast Concrete Slabs, Erection of new Lamp Standards, Diversion of Services, and ancillary works.

Contract documents may be obtained from the Consulting Engineers, MESSRS. FREDERICK S. SNOW AND PARTNERS, Ross House, 144 Southwark Street, London, S.E.1, after 8th August, 1961, on payment of a deposit of £5. This sum will be returned to the Clerk of the Council, Thurrock Urban District Council, and will be returned if a bona-fide Tender is submitted and not subsequently withdrawn.

The Contract documents and Drawings of the proposed scheme will be issued at the Offices of the Consulting Engineers on and after 4th August, 1961, before payment of the deposit.

Tenders must be submitted to the Clerk of the Council, Thurrock Urban District Council, Council Offices, Whitehall Lane, Grays, Essex, in the envelope provided, and must arrive by the 1st SEPTEMBER, 1961.

The Council does not bind itself to accept the lowest or any Tender.

FREDERICK S. SNOW AND PARTNERS,
Consulting Engineers.

Ross House,
144 Southwark Street,
London, S.E.1.

CONTRACTS

BUCKS. COUNTY COUNCIL.
AMERSHAM-RICKMANSWORTH ROAD, A.404.
ROADWORKS—LODGE LANE, LITTLE CHALFONT,
TO CHENIES TURN.

TENDERS are invited for the RECONSTRUCTION and WIDENING to 20ft. of approx. 1,200yd. of CARRIAGEWAY in Concrete and Tarmacadam Shaping, including Footways, Kerbing, Channelling, Drainage, and ancillary works.

Drawings may be seen at the Office of the County Surveyor, County Offices, Aylesbury, from whom Contract documents may be obtained on payment of a deposit of £2, returnable on receipt of a bona-fide Tender.

Tenders must be received by me by MONDAY, 14th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. E. MILLARD,
Clerk of the Council.

STAFFORDSHIRE COUNTY COUNCIL.
COUNTY ROADS.

TENDERS FOR SNOW FENCING.

The County Council invite TENDERS for SNOW FENCING.

Conditions and Form of Tender, etc., may be obtained by application to the County Surveyor, County Buildings, Stafford.

Tenders to be submitted to reach the undersigned, in official envelope provided, not later than First Post on FRIDAY, 18th August, 1961.

T. H. EVANS,
Clerk of the County Council.

BOROUGH OF REIGATE.
18 DWELLINGS—WOODHATCH FARM ESTATES,
REIGATE.

TENDERS are invited for 15 THREE-BEDROOM HOUSES, THREE ONE-STORY OLD PEOPLE'S ANNEXES and 15 GARAGES, based upon Bills of Quantities for Substructure and Site Works, subject to Remeasurement as work proceeds, and upon Lump Sum for Superstructure of the Dwellings based upon Specification and Detailed Plan.

Forms of Tender, Specification, Bills of Quantities and Plans obtainable from the Borough Engineer and Surveyor, Town Hall, Reigate, on payment of a deposit of £2.2s., refunded upon the submission of a bona-fide Tender or the return of all Plans and documents.

Sealed Tenders, in the envelope provided, and endorsed "Tender for 18 Dwellings—Woodhatch Farm Estate, Reigate," must be returned to the undersigned not later than Noon on THURSDAY, 10th August, 1961.

HEBER DAVIES,
Town Clerk.

Town Hall,
Reigate,
May, 1961.

BOROUGH OF CHESTERFIELD.
WALTON HALL FARM HOUSING ESTATE.

PRELIMINARY CONSTRUCTION OF STREETS
AND SEWERS.

TENDERS are invited for the CONSTRUCTION of the STREETS and SEWERS on the Walton Hall Farm Housing Estate, comprising an area of 11 acres approx.

The works consist generally of the Laying of Foul and Surface Water Sewers, and the Construction of Manholes, Excavation for Carrigeways and Footways, Laying Kerbs, and the Construction of Carrigeways up to the kerbs, and Base courses.

The Drawings and General Conditions of Contract may be inspected at, and the Specification and Bills of Quantities may be obtained from, the Office of the Borough Engineer and Surveyor, Town Hall, Chesterfield, upon payment of a deposit of Two Guineas, refundable upon the receipt of a bona-fide Tender and the return of all documents.

Tenders, which must be in plain sealed envelopes endorsed "Tender for Walton Hall Farm Housing Estate," and bearing no indication of the sender, must reach the undersigned not later than 10 a.m. on MONDAY, 14th August, 1961.

RICHARD CLEGG,
Town Clerk.

CITY OF BRADFORD.
SEWAGE DEPARTMENT.

STORE SHED.

TENDERS are invited for the SUPPLY and ERECTION of SOLVENT STORE SHED 30ft. x 30ft. x 10ft. high to eaves, in Fabricated Steel with Asbestos-cement Cladding, at the Corporation's ESHOLT SEWAGE DISPOSAL WORKS.

Form of Tender and Specification may be obtained from the Engineer and Manager, Esholt Hall, near Shipley, Yorkshire.

Tenders must be received by the undersigned not later than 9 a.m. on FRIDAY, the 1st September, 1961.

HENRY PATTEN,
Town Clerk.

Town Hall,
Bradford, 1.

RAMSEY URBAN DISTRICT COUNCIL.
STATION ROAD HOUSING SITE.

TENDERS are invited from experienced contractors for the LAYING of approx. 750yd. of 9in. and 6in. dia. SALT GLAZED WARE SEWERS and 200yd. of 3in. dia. ASBESTOS-CEMENT WATER MAIN, together with the Construction of approx. 250yd. of 16ft. wide Concrete Carrigeway, and ancillary works.

Specification, Bill of Quantities and Site Plan may be obtained from the Engineer and Surveyor, MESSRS. PICK, EVERARD, KEAVY AND GIMSON, 6 Millstone Lane, Leicester, on payment of a deposit of £3.3s. which will be returned on receipt of a bona-fide Tender. Further drawings may be seen during office hours at the above address.

Tenders, on the issue form, and in the envelope provided, should be delivered to the undersigned not later than 10 o'clock in the Forenoon of SATURDAY, the 12th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

A. GRIFFITHS,
Clerk of the Council.

Council Offices,
Bury Road,
Ramsey, Hunts.

CONTRACTS

SOUTHPORT COUNTY BOROUGH COUNCIL.

SURFACING WORKS—PRESTON NEW ROAD.

TENDERS are invited from specialist firms for the SUPPLY, DELIVERY and LAYING of approx. 23,500 sq. yd. of HOT ROLLED ASPHALT and PRE-COATED GRANITE CHIPPINGS on Preston New Road.

Specification, Bill of Quantities and Forms of Tender may be obtained from the Borough Engineer, Town Hall, Southport, Lancashire, on payment of a deposit of Two Guineas (cheques to be made payable to Southport Corporation), which sum will be returned on receipt of a bona-fide Tender.

Last date for receipt of Tenders: 4th AUGUST, 1961.

R. EDGAR PERRINS,
Town Clerk.

BOROUGH OF WARWICK.
LAYING OF WATER MAINS—LODGE WOOD ESTATE.

TENDERS on a Fixed-price Basis are invited from experienced contractors for the LAYING of approx. 900 lin. yd. of 4in. dia. SPUN-IRON WATER MAINS, together with all ancillary works, on Lodge Wood Estate, Warwick.

Copies of the Specification, Bill of Quantities, General Conditions and Form of Tender may be obtained from the undersigned on payment of a £2.2s. deposit which will be returned on receipt of a bona-fide Tender.

Tenders must reach the undersigned not later than First Post on MONDAY, the 14th August, 1961. The Council does not bind itself to accept the lowest or any Tender.

C. E. BROWN, A.M.I.Mun.E.,
Borough Engineer and
Surveyor.

BOROUGH OF WARWICK.
HEATHCOTE ROAD RECONSTRUCTION.

TENDERS are invited for the RECONSTRUCTION of HEATHCOTE ROAD, from Banbury Road to Harbury Lane Junction, a distance of approx. 1.350yd.

The work includes the Widening, Shaping-up and Resurfacing of the Carrigeway.

Copies of the Specification, Bill of Quantities, General Conditions and Form of Tender may be obtained from the undersigned on payment of a £2.2s. deposit which will be returned on receipt of a bona-fide Tender.

Tenders must reach the undersigned not later than First Post on MONDAY, the 14th August, 1961. The Council does not bind itself to accept the lowest or any Tender.

C. E. BROWN, A.M.I.Mun.E.,
Borough Engineer and
Surveyor.

BOROUGH OF FAVERSHAM.
BYSSING WOOD AND GARE ROADS.

FOUL SEWERAGE SCHEME.

TENDERS are invited for the CONSTRUCTION of a SEWAGE PUMPING STATION and the Laying of approx. 1,150 lin. yd. of 10in. dia. Asbestos Rising Main, and 2,905 lin. yd. of 9in. to 12in. dia. Concrete Pipe Foul Sewer, together with all other ancillary works.

Forms of Tender, Specifications and Bills of Quantities and Sample for submission, may be obtained from the Borough Surveyor, Municipal Offices, Faversham, on payment of Two Guineas deposit, which will be refunded on receipt of a bona-fide Tender.

Tenders to be submitted to the undersigned, in the envelope supplied, not later than Noon on MONDAY, 11th September, 1961.

F. G. BISHOP,
Municipal Offices,
Faversham, Kent.

17th July, 1961.

CITY OF CANTERBURY.
CONSTRUCTION OF ROADWORKS AND FOUL SEWER TO NEW ROAD OFF FRANKLYN ROAD.

TENDERS are invited for the CONSTRUCTION of CARRIAGEWAY and Footways (approx. length 140yd.) with Incidental works of Constructing Surface Water Drains, Street Lighting, etc., and approx. 134yd. of 6in. Foul Sewer, together with Manholes.

Drawings, Specification, Bill of Quantities and Form of Tender may be obtained from the City Engineer, Municipal Buildings, Dane John, Canterbury. Copy of Contract Conditions may be examined at his Office during normal office hours.

Tenders, in plain sealed envelopes endorsed "New Road off Franklyn Road," should be returned to the undersigned not later than First Post on MONDAY, 21st August, 1961.

(Signed) J. BOYLE,
Municipal Buildings,
Canterbury.

18th July, 1961.

EAST BARNET URBAN DISTRICT COUNCIL.

CONTRACT NO. 950.

COMPLETION OF CARRIAGEWAYS AND FOOTWAYS—PINE ROAD HOUSING SITE.

FIXED-PRICE TENDERS are invited for the COMPLETION of CARRIAGEWAYS and FOOTWAY WORKS at the ABOVE, comprising the Reconstruction and Surfacing with Bitumen Macadam some 2,400 sq. yd. of Carrigeway, 880 lin. yd. of Precast Concrete Kerbs with Set Channels, and incidental works.

Forms of Tender, Specification and Bills of Quantities may be obtained from the ENGINEER AND SURVEYOR, Town Hall, Station Road, New Barnet, Herts., on payment of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender.

Tenders, sealed in the envelopes provided, must be received by not later than MONDAY, 14th August, 1961.

The lowest or any Tender will not necessarily be accepted.

CONTRACTS

BOROUGH OF CHELMSFORD.
MEADGATE SCHEME B.

FIXED-PRICE TENDERS are invited for the ERECTION of 23 HOUSES, 32 GARAGES and 12 FLATS at MEADGATE AVENUE, Great Baddow.

Specifications, Bill of Quantities and Forms of Tender may be obtained from the Borough Engineer on or after the 28th July, 1961, on payment of a deposit of Two Guineas. The deposit will be refunded on receipt of a bona-fide Tender. The tender will not subsequently be withdrawn, together with the return of all documents supplied.

Cheques should be made payable to Chelmsford Corporation.

Plans of the Houses and Flats are available for inspection at the Municipal Offices, Coval Lane, Chelmsford, on or after the 28th July, 1961.

Tenders are to be returned to the undersigned by Noon on the 28th AUGUST, 1961. Bills of Quantities and same day.

The Council do not bind themselves to accept the lowest or any Tender.

B. A. FRANCIS,
Town Clerk.

Municipal Offices,
Coval Lane,
Chelmsford,
July, 1961.

CITY OF CARDIFF.
CITY SURVEYOR'S DEPARTMENT.

BUTETOWN AND CENTRAL AREA REDEVELOPMENT MAIN DRAINAGE SCHEME.

FIXED-PRICE TENDERS are invited for the FOLLOWING:

The construction of approx. 3,250 lin. yd. of 9in. to 48in. dia. and 1,850 lin. yd. of 72in. dia. Concrete Foul and Surface Water Sewers, complete with Brick and Precast Concrete Manholes, and ancillary works.

Conditions of Tender, Specification, Bills of Quantities and Drawings may be obtained from the City Surveyor, whose Office, Drawings and Conditions of Contract may be inspected, and to whom application should be made, accompanied by a deposit of the sum of £2.2s. Cheques should be made payable to the Cardiff Corporation and crossed "Not Negotiable and Co."

The deposit will be refunded on receipt of a bona-fide Tender, or the return of the Contract documents by the closing date.

Tenders will not be considered unless enclosed in a plain sealed envelope endorsed "Tender for Butetown and Central Area Redevelopment Main Drainage Scheme" addressed to the City Surveyor, Town Hall, Cardiff, and sent by Registered Post or Recorded Delivery so as to be received not later than WEDNESDAY, the 30th August, 1961.

The envelope must not bear the name of, or any mark indicating the identity of, the tenderer.

The Council does not bind itself to accept the lowest or any Tender.

S. TAPPER-JONES,
Town Clerk.

Town Hall,
Cardiff,
12th July, 1961.

BASINGSTOKE RURAL DISTRICT COUNCIL.

EXTENSIONS TO SHERFIELD-ON-LODDON AND SHERBORNE ST. JOHN SEWAGE DISPOSAL WORKS.

BS/2 CONTRACT 3 AND BS/3 CONTRACT 2.

TO CIVIL ENGINEERING AND PUBLIC WORK CONTRACTORS.

The Basingstoke Rural District Council invite TENDERS from experienced Contractors for EXTENSIONS to the ABOVE WORKS, as follows: At Sherfield-on-Lodon—New Sedimentation Tanks, Filter Beds, Humus Tanks, Sludge Digestion Tanks, Drying Beds; at Sherborne St. John—New Humus Tanks, and other ancillary works.

Particulars and Specification may be obtained, and Plans inspected, at the Offices of the Council's Consulting Engineers, MESSRS. HOWARD HUMPHREYS AND SONS, West Street, Epsom, Surrey, on and from Monday, 24th July, 1961, until Friday, 11th August, 1961, between the hours of 10 a.m. and 4 p.m., upon payment of a deposit of Two Guineas by cheque made payable to the Basingstoke Rural District Council. After which deposit, the Council have reached a decision, will be returned to each contractor who has submitted a bona-fide Tender which has not subsequently been withdrawn. Prints of Contract Drawings can be obtained from the Consulting Engineers on payment to them of £1.5s. plus postage. All tenders are to be returned.

Tenders, on the official form, are to be delivered to the undersigned, in sealed envelopes endorsed "Tender for Extensions to Sherfield-on-Lodon and Sherborne St. John Sewage Disposal Works," but bearing no name or other mark indicating the sender, not later than 1st AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

A. S. REW,
Clerk to the Council.

Council Offices,
Elands
London Road,
Basingstoke,
July, 1961.

CUMBERNAULD DEVELOPMENT CORPORATION.

CARBRAIN 3 AND 4 HOUSING DEVELOPMENT.

Contractors wishing to TENDER for the ERECTION of 443 DWELLINGS, comprising: 192 Two-storey Terrace Houses; 38 Three-storey Terrace Houses; 41 Flats over garages; 126 Flats and Maisonettes in seven blocks, each containing four flats and 14 Maisonettes; 12 Flats and Maisonettes in one block, containing eight flats; 38 Maisonettes and one Shop Store, together with 231 Attached and Detached Garages, one Shop, two Sub-stations, Tenants' Rooms, Pavings, Drainage, and certain Site Works, are invited to submit their names to the CHIEF ARCHITECT AND PLANNING OFFICER, Cumbernauld House, Cumbernauld, Glasgow, no later than 11th AUGUST, 1961.

The Corporation reserve the right to select the contractors to whom Tender documents will be issued.

It is anticipated that the Contracts will be awarded to commence towards the end of this year, and that the whole of the works will be required to be completed within 21 months following the agreed date of commencement.

A substantial bonus/incentive/penalty arrangement will be incorporated in the Contract.

Schedules of Quantities for this Several Works Contract will be immediately available.

CONTRACTS

COUNTY BOROUGH OF BOURNEMOUTH.
BOROUGH ENGINEER'S DEPARTMENT.

TENDERS FOR VANS AND REFUSE VEHICLES.

TENDERS are invited for the SUPPLY of TWO VANS, Scwt. or less, and TWO COMPRESSING TYPE REFUSE VEHICLES, minimum capacity 24 cu. yd. of uncompressed refuse.

Tender Forms and Specifications from Borough Engineer, Town Hall, Bournemouth, returnable to me by 7TH SEPTEMBER, 1961.

A. LINDSAY CLEGG,
Town Clerk.

27th July, 1961.

BOROUGH OF REIGATE.

(1) CONSTRUCTION OF SURFACE WATER SEWERS—SCHOOL HILL AND BLETCHINGLEY ROAD, SOUTH MERSTHAM.

(2) THE IMPROVEMENT OF BLETCHINGLEY ROAD—NUTFIELD ROAD JUNCTION, SOUTH MERSTHAM.

(3) THE RENEWAL OF THE SURFACE WATER SEWER, QUALITY STREET AND HIGH STREET, MERSTHAM.

TENDERS are invited for the ABOVE-MENTIONED WORKS, comprising the Provision and Laying of some 590 lin. yds. of 18in. dia. Reinforced Concrete and 9in. diameter Pre-cast Concrete Pipes. Alterations to approximately 100 lin. yds. Pre-cast Concrete Kerbing, together with various ancillary Works.

Tender Forms may be obtained from, and Conditions of Contract may be inspected at, the office of the Borough Engineer and Surveyor.

Tenders must be returned, in the sealed envelope provided, to the undersigned not later than FRIDAY, 18th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

HEBER DAVIES,
Town Clerk.

Town Hall,

Reigate.

27th July, 1961.

BOROUGH OF GOSPORT.
PRIVATE STREET WORKS—CONTRACT NO. 3.

TENDERS are invited for the MAKING-UP of SEVEN PRIVATE STREETS within the Borough, involving the Replacement of Broken Kerbs; the Laying of approx. 140 lin. yds. of 6in. dia. Pipes in Gully Connections, together with one Manhole and Seven Gullies, and the Laying of 8,500 sq. yd. of Hot Rolled Asphalt Road Surfacing and 4,500 sq. yd. of Asphalt Surface Dressing, together with Turning, Vehicle Crossings, and appurtenant works.

Tender documents are obtainable from the Borough Engineer, The Hall, Trinity Green, Gosport, upon deposit of Two Guineas, returnable on receipt of a bona-fide Tender, not subsequently withdrawn, and the return of all documents.

Tender Forms should be submitted to me, in the small endorsed envelope provided, and should bear no mark indicating the sender. The priced Bills of Quantities should at the same time be submitted to me, in the large endorsed envelope provided, and should bear the name of the tenderer. Both envelopes must reach my Office not later than the First Post on TUESDAY, 5th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

EDWARD ADDENBROKE,
Town Clerk.

Town Hall,

Gosport.

CITY OF MANCHESTER.
PRIVATE STREET WORKS.

TENDERS are invited for PAVING and COMPLETING the FOLLOWING STREETS:

(1) Park Range, Victoria Park—approximately 1,560 sq. yd. of Bituminous Macadam Carriageway, 660 sq. yd. of Asphalt Sand Carpet Footpath, and incidental Works.

(2) Hermitage Road and Linn Street, Crumpsall—approximately 1,600 sq. yd. of Bituminous Macadam Carriageway, 500 sq. yd. of Asphalt Sand Carpet Footpaths, and all ancillary Works.

Tender documents, returnable by the 28th AUGUST, 1961, from the CITY SURVEYOR, Town Hall, Manchester, 2.

KIDDERMINSTER RURAL DISTRICT COUNCIL.

LAYING OF WATER MAINS IN THE PARISHES OF ROCK AND UPPER ARLEY.

TENDERS, on a FIXED-PRICE BASIS, are invited for the LAYING of APPROXIMATELY 1,000 lin. yds. of 4in. and 3in. diameter ASBESTOS-CEMENT WATER MAINS, together with ancillary Works and Fittings. Approximately 2,700 lin. yds. will be in the Parish of Upper Arley, and 960 lin. yd. in the Parish of Rock.

Specification, Bill of Quantities and Form of Tender may be obtained from, and Plans inspected at, the office of the Engineer and Surveyor, A. CHAPMAN, ESQ., A.M.I.Mun.E., M.Inst.H.E., at the address below, upon payment of deposit of £3 3s., returnable on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain envelopes, endorsed "Rock and Arley Water Mains," must be delivered to the undersigned on or before Noon on the 21st AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. H. SWANN,
Clerk of the Council.

Council Offices,

Land Oak House,

Kidderminster.

CHICHESTER RURAL DISTRICT COUNCIL.

MAKING-UP OF HOUSING ESTATE ROADS.

LIST OF APPROVED TENDERERS.

The Council propose to LET CONTRACTS for MAKING-UP A NUMBER OF THEIR HOUSING ESTATE ROADS to Local Highway Authority Adoption Standards. Individual contracts are not likely to exceed about £10,000 value.

Tenders will be invited only from those contractors whose names have been included in the Council's List of Approved Tenderers, and that List will be subject to review from time to time.

Contractors desirous of being included in the List of Approved Tenderers should apply to the Engineer and Surveyor, East Pallant House, Chichester, for an application form, which is to be returned to him not later than 19th AUGUST, 1961.

G. T. GILES,
Clerk of the Council.

Pallant House,

Chichester.

CONTRACTS

METROPOLITAN BOROUGH OF CAMBERWELL.

TENDERS invited for the SUPPLY and ERECTION of a SPECIAL PURPOSE STEEL-FRAMED ASBESTOS-CLAD GARAGE, approx. 24ft. x 11ft. x 16ft. high, at the COUNCIL'S PECKHAM PARK ROAD DEPOT. Closing date: 15th AUGUST, 1961.

BOROUGH OF HESTON & ISLEWORTH.

REWIRING OF ELECTRICAL INSTALLATION, SUPPLYING AND FITTING POWER POINTS.

ST. AUBIN'S AVENUE, HOUNSLAW.

TENDERS are invited for the REWIRING of the ELECTRICAL INSTALLATION, SUPPLYING and FITTING POWER POINTS in 40 COUNCIL HOUSES on the WARREN ESTATE (St. Aubin's Avenue), Hounslow.

Forms of Tender to be obtained from the Housing Officer and Manager, Housing Department, Treaty Road, Hounslow, Middlesex.

Tenders, in sealed plain envelopes not indicating the tenderer endorsed "Warren Estate—Rewiring," must be delivered to me by 10 a.m. on the 21st AUGUST, 1961.

The Corporation are not bound to accept any Tender.

D. MATHEISON,
Town Clerk.

Town Hall,
Hounslow, Middx.

BOROUGH OF MIDDLETON.

ASPHALT SURFACING.

TENDERS are invited for SUPPLYING and LAYING 1½in. SINGLE-COURSE HOT-ROLLED ASPHALT by Mechanical Spreader, together with Remedial Works, to the Foundation and Asphalt Regulating Course on HOLLIN LANE, A.6046, approximately 13,200 sq. yd.

Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Engineer, his own office, upon payment of a deposit of Two Guineas (cheques to be made payable to Middleton Corporation), which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes endorsed "Tender—Asphalt Surfacing," must be received by the undersigned not later than Noon on WEDNESDAY, 9th August.

The Council does not bind itself to accept the lowest or any Tender.

F. JOHNSTON,
Town Clerk.

Town Hall,
Middleton,
Near Manchester.

CITY AND COUNTY OF THE CITY OF LINCOLN.

HOME FOR THE ELDERLY—ERMINE ESTATE.

FIXED-PRICE TENDERS are invited for the ERECTION of the ABOVE HOME to accommodate 52 aged persons.

The Construction is to be Load-bearing Cavity Walls with Pitched Roofs and Tiles. Plans and Conditions of Contract may be examined at, and Bills of Quantities, explanatory Drawings and Form of Tender obtained (after the 8th August, 1961) from the City Architect, R. J. ALEXANDER, F.R.I.B.A., M.T.P.I., Stamp End, Lincoln, on payment of a deposit of £2 2s. (cheques made payable to the Lincoln Corporation) which will be refunded on receipt of a bona-fide Tender, including relevant documents.

Tenders on the prescribed form, in the plain envelope supplied, bearing no name or mark indicating the sender, must be delivered, sealed, to the undersigned not later than 10 a.m. on the 4th SEPTEMBER, 1961, endorsed "Tender for Home for the Elderly, Ermine Estate."

The Council do not bind themselves to accept the lowest or any Tender.

J. HARPER SMITH,
Town Clerk.

Town Clerk's Office,
Lincoln.

EAST BARNET URBAN DISTRICT COUNCIL.

CONTRACT NO. 941.

PUBLIC LIGHTING—IMPROVEMENTS, 1961/62.

FIXED-PRICE TENDERS are invited from experienced contractors for the FOLLOWING WORK, to be undertaken under one Contract:

(a) (i) The Supply and Erection of 13 15ft. mounting height Concrete Columns and Brackets, together with 37 15ft. mounting height Cast-iron Columns and Brackets (all specified patterns); and

(ii) The Resiting of approx. 139 15ft. mounting height Metal Columns and Brackets; also the Erection of 116 15ft. mounting height Metal Columns and Brackets from the Column Depot.

(b) The Supply and Fitting of 395 Lanterns for 60-Watt Sodium Vapour Lamps, with Control Gear and Lamps (all specified patterns).

(c) All the necessary Electrical Work in the Wiring (other than Jointing and servicing) of the Columns and Lanterns in (a) and (b) above.

Forms of Tender, Specification and Bills of Quantities may be obtained from the ENGINEER AND SURVEYOR, Town Hall, Station Road, New Barnet, Herts., on payment of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender.

Tenders, sealed in the envelopes provided, must be received by not later than SATURDAY, 26th August, 1961.

The lowest or any Tender will not necessarily be accepted.

CHISLEHURST AND SIDCUP URBAN DISTRICT COUNCIL.

CAR PARK—COTMANDENE CRESCENT, ST. PAUL'S CRAY.

TENDERS are invited for the CONSTRUCTION of 1,300 sq. yd. of TARMACADAM SURFACING on Hardcore, Kerbing, Paving, and incidental Works.

Applications to Engineer and Surveyor, Manor House, Sidcup, with Two Guineas deposit.

Tenders to be underwritten by 11th AUGUST, 1961.

T. W. FAGG,
Clerk of the Council.

Sidcup Place,
Sidcup, Kent.

CONTRACTS

CONTRACTS

LONDON COUNTY COUNCIL.
SUPPLY AND DELIVERY OF CAST-IRON SEWER SEGMENTS FOR NORTHERN OUTFALL SEWER BRIDGE

QUOTATIONS are invited from contractors having experience of casting large cast-iron sewer segments, for the SUPPLY and DELIVERY of SUCH SEGMENTS (total approx. weight 165 tons) required for the Reconstruction of MANOR ROAD BRIDGE, E.15.

Form of Quotation, Specification, etc., and Drawings are obtainable from the Chief Engineer upon payment of £3 by crossed cheque or order made payable to the London County Council, which will be returned only if a bona-fide Quotation is submitted and not subsequently withdrawn.

Quotation and other relevant documents may be inspected on personal application at Room 450D, the County Hall, before payment of fee. Remittance by post should be addressed to the CHIEF ENGINEER, County Hall, Westminster Bridge, S.E.1.

No Quotation received after 4 p.m. on 28th AUGUST, 1961, will be considered.

The Council does not bind itself to accept the lowest or any Quotation.

LONDON COUNTY COUNCIL.
HOLBORN-KINGSWAY INTERSECTION IMPROVEMENT.

STAGE I.

TENDERS are invited from contractors having considerable experience of large road construction works, for the WIDENING of PARTS of EXISTING STREETS, a Pedestrian Subway and Underground Public Concourse, at Holborn/Kingsway Intersection.

Form of Tender, Specifications, etc., and Drawings are obtainable from the Chief Engineer upon payment of £10 by crossed cheque or order made payable to the London County Council, which will be returned only if a bona-fide Tender is submitted and not subsequently withdrawn.

Contract and other relevant documents may be inspected on personal application at Room 450D, County Hall, before payment of fee. Remittance by post should be addressed to the CHIEF ENGINEER, County Hall, Westminster Bridge, S.E.1.

No Quotation received before 3 p.m. on MONDAY, 28th August, 1961, will be considered.

The Council does not bind itself to accept the lowest or any Tender.

COUNTY BOROUGH OF BURTON-UPON-TRENT.

HEATH ROAD, ROSLINTON ROAD AND HILL STREET SURFACE WATER SEWERS.

THE CORPORATION invite TENDERS for the LAYING of 130yds. of 18in. dia., 570yds. of 15in. dia., 90yds. of 12in. dia., and 210yds. of 9in. dia. SURFACE WATER SEWERS, including 12 Manholes and ancillary works.

Form of Tender, Bills of Quantities, Conditions of Contract and Specification may be obtained, and the Plans may be inspected, on application to the Borough Surveyor, Town Hall, Burton-upon-Trent.

Tenders and documents in the envelopes provided, should be delivered to the undersigned not later than 5 p.m. on TUESDAY, 29th August, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

H. T. MEADES,
Town Clerk.

Town Hall,
Burton-upon-Trent.
26th July, 1961.

CITY OF LEEDS.
TO CONTRACTORS.

TENDERS are invited by the Town Planning and Improvements Committee for a SOIL SURVEY along the line of the PROPOSED INNER RING ROAD (Stage I), between Westgate and Camp Road intersection.

Plans, Specification, Conditions of Contract, Bill of Quantities and Form of Tender may be obtained at the office of the undersigned on payment of a deposit of £2 2s., which will be returned upon the receipt of a bona-fide Tender, together with all documents supplied.

Tenders and all documents shall be completed and forwarded in accordance with the detailed instruction to the Town Clerk's Office, Room 57, Civic Hall, Leeds, 1, not later than 12 Noon on FRIDAY, 18th August, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

D. CURRIE, M.I.C.E.,
Civic Hall, 1.
City Engineer.

Leeds, 1.

NORTHWICH URBAN DISTRICT COUNCIL.

SUPPLY OF PLUMBING GOODS.

TENDERS are invited for the SUPPLY and DELIVERY of PLUMBING GOODS for the year 1961-62.

Copies of the Specification can be obtained from the Engineer and Surveyor, The Council House, Northwich.

Tenders, in a plain sealed envelope, endorsed "Plumbing Goods," should reach the undersigned not later than Noon on SATURDAY, 12th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

H. D. HOCKING,
Clerk of the Council.

The Council House,
Church Road,
Northwich.

MIDHURST RURAL DISTRICT COUNCIL.

TENDERS are invited, on a FIXED-PRICE BASIS, for SITE WORKS at SANDROCK HOUSING SITE, involving the Construction of a Lay-by and Estate Roads, Footpaths, Surface Water Sewer, and ancillary Works.

Plans, Specification, Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor, upon payment of Two Guineas deposit, refundable on receipt of a bona-fide Tender.

Tenders are to be enclosed in a plain sealed envelope endorsed "Sandrock Site Works," and to be delivered to the undersigned not later than 1st SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

D. L. BLAY,
Clerk of the Council.

Council Offices,
North Street,
Midhurst,
Sussex.

20th July, 1961.

CONTRACTS

ISLE OF ELY COUNTY COUNCIL
FIRE SERVICE COMMITTEE.PROPOSED WORKSHOP UNIT AND DRILL TOWER—
COUNTY FIRE HEADQUARTERS, WISBECH.

Building contractors are invited to submit FIRM-PRICE TENDERS for the ABOVE WORK, which comprises the FOLLOWING:

- (1) Steel-framed Workshop Building of approx. 3,200 sq. ft., the building being part two-storey, part single-storey,
 - (2) A Drill Tower approx. 65ft. high, in Reinforced Brickwork,
 - (3) Small Ancillary Buildings; and
 - (4) Alterations to the existing Appliance Room.
- The Bills of Quantities will be available on 21st August, and Tenders are to be submitted by 25th SEPTEMBER, 1961.

Contractors requiring documents are to apply in writing to the County Architect, County Hall, March, Camb., not later than 12th AUGUST, 1961. Tenders must be accompanied by a cheque for £2 2s., payable to the Isle of Ely County Council. This deposit will be refunded upon receipt of a bona-fide Tender.

R. F. G. THURLOW,
Clerk of the County Council.

County Hall,
March.

BRECONSHIRE COUNTY COUNCIL.

TENDERS.

TENDERS are to be invited from approved contractors enrolled with the National Inspection Council for Electrical Installation Contractors for the purpose of placing a Sub-contract under general contractor for the ELECTRICAL INSTALLATION at the FIVE STREAM COMPREHENSIVE MIXED SCHOOL, Brynmawr. The floor area of the School is approx. 64,500 sq. ft. and comprises the FOLLOWING ACCOMMODATION:

- 22 General Classrooms, 8 Laboratories, Engineering, Woodwork and Metalwork Rooms, Drawing Office, 1 Assembly/Dining Room, 2 Gyms, Kitchen Area, 1 Stage Music Room, 2 Art and Craft Rooms, 2 Housecraft Rooms, Library, Boys' House, Provision Room, Staff Rooms, Changing Room, Cloakrooms, Entrance Hall and Corridors, etc.

All electrical contractors desirous of tendering for the Sub-contract are invited to submit their names and particulars to the County Architect's Office, Brecon, by 8th AUGUST, 1961, together with a deposit of Two Guineas. Cheques should be made payable to the Breconshire County Council.

The Breconshire County Council does not bind itself to accept the lowest or any Tender.

C. M. S. WELLS,
Clerk of the County Council.

County Hall,
Brecon.

COUNTRY COUNCIL OF DURHAM.

TENDERS invited for SUPPLY of BEDDING and LINEN.

Forms of Tender, returnable by 18th AUGUST, 1961, and details from undersigned.

G. H. METCALFE,
Director of Education.

Shire Hall,
Durham.

17th July, 1961.

BOROUGH OF MAIDSTONE.
BUILDINGS AT SEWAGE TREATMENT WORKS.

WM18 CONTRACT W2.

FIRM-PRICE TENDERS are invited for the CONSTRUCTION of the FOLLOWING BUILDINGS at the INLET TREATMENT WORKS at ALLINGTON and the MAIN SEWAGE TREATMENT WORKS at AYLESFORD:

- Sewage House and Grit Pumping Station.
- Administration Building and Boiler House.
- Recirculation Pumping Station.
- Sludge Pumping Station.
- Staff Cottages (one pair).

Particulars, Specification and Drawings can be obtained from the Consulting Engineers, MESSRS. HOWARD HUMPHREYS AND SONS, West Street, Epsom, Surrey, on and from Tuesday, 1st August, 1961. Tender documents can be obtained from the Consulting Engineers on payment of a deposit of Five Guineas, made payable to the Corporation, and returnable for a bona-fide Tender not subsequently withdrawn.

No Tender will be considered unless it is submitted on the official form and delivered to the undersigned not later than MONDAY, 11th AUGUST, 1961, in a plain sealed envelope endorsed "Tender for Inlet Treatment Allington Pumping Station and Aylesford Sewage Disposal Works, Contract W2," but bearing no indication of the sender.

The Council do not bind themselves to accept any Tender.

T. SCHOLES,
Town Clerk.

Town Clerk's Office,
13 Tonbridge Road,
Maldstone,
Kent.

July, 1961.

BOROUGH OF EALING.
DEMOLITION WORKS.

TENDERS invited for DEMOLITION of TEMPORARY BUILDING at REAR OF TOWN HALL, and 191 BOSTON ROAD, Hanwell.

Full details and Tender Form from Borough Engineer, Town Hall, Ealing, W.S.

Closing date: 8th AUGUST, 1961.

E. J. COPE BROWN,
Town Clerk.

BOROUGH OF HORNSEY.
SODIUM LIGHTING.

TRUNK ROAD, A1, (ARCHWAY ROAD);
CLASS 1, A.1000 (GREAT NORTH ROAD);
CLASS 2, B.640 (HORNSEY LANE).

TENDERS are invited for the REMOVAL of the EXISTING LIGHTING SYSTEMS and the SUPPLY and FIXATION of 72 200-W SODIUM UNITS on 30ft. Steel Columns and 46 140-W SODIUM UNITS on 25ft. Steel Columns.

Specification and Bill of Quantities may be obtained from the Borough Engineer and Surveyor, Town Hall, Crouch End, Hornsey, N.8, and Drawings may be viewed at this address.

Tenders must be returned in the envelopes provided, bearing no mark or indication of the identity of the sender, and to be received by me not later than Noon on 18th AUGUST, 1961.

W. B. MURGATROYD,
Town Clerk.

CONTRACTS

BOROUGH OF WESTON-SUPER-MARE.

WESTON-SUPER-MARE IMPROVEMENT ACT, 1887.

PRIVATE STREET WORKS.

- (1) LEEWOOD ROAD.
- (2) MENDIP AVENUE.
- (3) SALISBURY ROAD.
- (4) ST. AUSTELL ROAD.
- (5) WOODVIEW TERRACE.

TENDERS are invited from contractors experienced in road construction for the PRIVATE STREET WORKS, comprising Kerbing, Channelling, Concrete Flag Paving (approx. 1,400 sq. yd.), Tarmacadam Surfacing to Roadways (approx. 3,300 sq. yd.), and other incidental works.

Application for the Tender documents, accompanied by a £2 (Two Pounds) deposit, returnable on receipt of a bona-fide Tender, should be made to the Office of the Borough Engineer and Surveyor, where Conditions of Tender and Drawings may be inspected during normal office hours.

Tenders, on the prescribed form, sealed in the envelope provided, must be delivered to the undersigned by Noon on FRIDAY, 4th August, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

R. G. LICKFOLD,
Town Clerk.

Town Hall,
Weston-super-Mare.

13th July, 1961.

WIRRAL URBAN DISTRICT COUNCIL.

SUPPLY OF OIL FUEL.

TENDERS are invited for the SUPPLY and DELIVERY, as required during the 12 months ending 31st August, 1962, of GAS OIL (35 secs) to the COUNCIL OFFICES, Heswall.

Form of Tender and further particulars may be obtained on application to the Engineer and Surveyor, Council Offices, Heswall.

W. F. ROBERTS,
Clerk of the Council.

Council Offices,
Heswall,
Wirral.

12th July, 1961.

EAST KESTEVEN RURAL DISTRICT COUNCIL.

HECKINGTON AND GREAT HALE SEWERAGE SCHEME.

CONTRACT NO. 1.

TENDERS are invited for the CONSTRUCTION of approx. 5,600yd. of 6in. dia., 2,400yd. of 9in. dia. and 2,125yd. of 12in. dia. CONCRETE PIPE SEWERS, together with 1,600yd. of 4in. and 6in. Asbestos-cement Rising Mains, two Sewage Pumping Stations, one Sewage Ejector Station, Sewage Treatment Works and all other connections to curtilage, at Heckington and Great Hale, in the East Kesteven Rural District of Lincolnshire.

Contractors wishing to tender should apply for the documents and Drawings the Council's Consulting Engineers, MESSRS. JOHN H. HAISTER AND PARTNERS, 20 Wood Lane, Hendon, Middlesex, enclosing a deposit equal to value Three Guineas, made payable to the East Kesteven Rural District Council, such deposit to be refunded upon receipt of a bona-fide Tender and the return of all the documents and drawings.

Drawings may be inspected at either the Council Offices or the Consulting Engineers' Peterborough Office at 44-46 Bridge Street.

Tenders are to be submitted to the undersigned not later than 12 Noon on the 21st AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender they may receive.

A. P. HAZELTON,
Clerk of the Council.

Council Offices,
18 Northgate,
Sleaford, Lincs.

20th July, 1961.

FOREHOE AND HENSTEAD RURAL DISTRICT COUNCIL.

COTESSEY SEWERAGE AND SEWAGE DISPOSAL SECTION 4.

FIXED-PRICE TENDERS are invited from experienced civil engineering contractors for the CONSTRUCTION of 17,400yd. of 9in. and 6in. dia. SEWERS, Manholes, one Off-site Pumping Station, and 1,350yd. of 10in. dia. Spun-Iron Rising Main, and Extensions to an existing Sewage Disposal Works comprising Detention Tanks, Settlement Tanks, Filter Beds, Humus Tanks, Sludge Drying Beds, Sludge Digestion Tanks, Site Pumping Station, and other appurtenant works.

Plans, Specification and Bills of Quantities may be seen at the Office of the Council's Consulting Engineers, MESSRS. ELLIOTT AND MANZONI, 20 Station Road, Nottingham, and copies of the Tender documents may be obtained from them on deposit of £5 5s. (by cheque made payable to the Forehoe and Henstead R.D.C.), which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn, and the return of all documents loaned to the contractor.

Tenders, endorsed "Cotessey Sewerage and Sewage Disposal—Section 4," should be delivered in a plain sealed envelope to the undersigned not later than 4th SEPTEMBER, 1961.

The Council do not bind themselves to accept the lowest or any Tender, and the work will be subject to the final approval of the Ministry of Housing and Local Government after submission of an estimate based on a provisionally accepted Tender.

R. F. BLAZHEY,
Clerk to the Council.

Ber House,

158 Ber Street,

Norwich, NOR 5EB,

Norfolk.

July, 1961.

THAMES CONSERVANCY.

RIVER PINN IMPROVEMENT SCHEME.

The CONSERVATORS OF THE RIVER THAMES hope shortly to invite TENDERS for WORKS OF IMPROVEMENT to the RIVER PINN at YIEWSLEY, Middlesex.

Works will consist of Constructing a Double Box Culvert in two 10ft. spans 5ft. 9in. deep and 270ft. long; the Provision of a Concrete Invert to a Road Bridge, and other ancillary works.

Drawings and documents are expected to be available shortly, and anyone wishing to tender is invited to write now to the CHIEF ENGINEER, Thames Conservancy, De Bohun Road, Reading, requesting documents when available.

CONTRACTS

STAFFORDSHIRE COUNTY COUNCIL.

TENDERS are invited for the WIDENING of approx. 3½ miles of the BIRMINGHAM-WOLVERHAMPTON TRUNK ROAD, A.4123, in Coseley, to provide dual carriageways.

The works include Excavation in Verges and existing Carriageway, Kerbing, Channelling, Foundation in various materials, Drainage, and Surfacing in Bitumen Macadam. Alterations will also be carried out to existing automatic traffic signal installations.

No final surfacing is included in this Contract.

Copies of the Specification and Bills of Quantities may be obtained from the undersigned on payment of a deposit of £5 which will be refunded on receipt of a bona-fide Tender or on return of the documents before closing date.

Tenders, marked "Dualling of A.4123 in Coseley," and bearing no indication of the name of the sender, should be returned to the undersigned not later than 12 Noon on the 22nd AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

T. H. EVANS,
Clerk of the County Council.

County Buildings,
Stafford.
July, 1961.

CITY OF BIRMINGHAM.
TO PUBLIC WORKS CONTRACTORS.CALTHORPE PARK REDEVELOPMENT AREA—
UNITS NOS. 501, 502 AND 503 SEWERAGE.

The PUBLIC WORKS COMMITTEE invite TENDERS on a Fixed-price Basis for a Measure and Value Contract for the CONSTRUCTION of approx. 3,000 lin. yd. of STONEWARE and CONCRETE PIPE FOUL and SURFACE WATER SEWERS from 30in. dia. to 9in. dia., together with incidental works.

Copies of the General Conditions (which include the Corporation's usual Fair Wage and Conditions of Labour Clause), Supplemental Conditions, Specification, Bills of Quantities and Forms of Tender may be obtained on payment of a deposit of £2 2s. at the Office of SIR HERBERT J. MANZONI, City Engineer and Surveyor, Baskerville House, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. The deposit will be returned on receipt of a bona-fide Tender. Plans can be seen at Room M.39, Baskerville House, Civic Centre, Birmingham, 1.

Tenders, enclosed in the envelope provided for the purpose, must be sealed and delivered to the Town Clerk's Department (Room No. B.21), Council House, Birmingham, 1, not later than 12 Noon on WEDNESDAY, 16th August, 1961, when they will be opened. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,
Town Clerk.

CITY OF BIRMINGHAM.
TO PUBLIC WORKS CONTRACTORS.

FOX HOLLIES HALL ESTATE, HALL GREEN.

The HOUSEBUILDING COMMITTEE invite TENDERS on a Fixed-price Basis for a Measure and Value Contract for the CONSTRUCTION of ROADS and the Construction of FOUL and Surface Water Sewers, together with incidental work.

Copies of the Road and Sewer Specifications, Bills of Quantities and Forms of Tender may be obtained on payment of £2 2s. in respect of each of the above contracts at the Office of SIR HERBERT J. MANZONI, City Engineer and Surveyor, Baskerville House, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. The deposit will be returned on receipt of a bona-fide Tender.

Plans for the Road and Sewerage Works can be seen at Rooms 339 and 39, respectively, Baskerville House, Civic Centre, Birmingham, 1.

Tenders, enclosed in the envelope provided for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B.31), Council House, Birmingham, 1, not later than 12 Noon on WEDNESDAY, 9th August, 1961, when they will be opened. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,
Town Clerk.

CITY OF BIRMINGHAM.
TO PUBLIC WORKS CONTRACTORS.

The PUBLIC WORKS COMMITTEE invite TENDERS on a Fixed-price Basis for a Measure and Value Contract for CONSTRUCTION of FOOTPATHS and other ancillary works:

- (a) Northern Area of City;
- (b) Eastern Area of City;
- (c) South-West Area of City;
- (d) Southern Area of City.

Copies of the Specifications, Bills of Quantities and Forms of Tender may be obtained on payment of £2 2s. in respect of each of the above contracts at the Office of SIR HERBERT J. MANZONI, City Engineer and Surveyor, Baskerville House, Civic Centre, Birmingham, 1, to whom all cheques should be made payable. The deposits will be returned on receipt of a bona-fide Tender.

Tenders, enclosed in the envelope provided for the purpose, must be sealed and delivered to the Town Clerk's Office (Room No. B.21), Council House, Birmingham, 1, not later than 12 Noon on WEDNESDAY, 9th August, 1961, when they will be opened. Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,
Town Clerk.

COUNCIL HOUSE,
BIRMINGHAM, 1.

HOLYHEAD URBAN DISTRICT COUNCIL.

OLD PEOPLE'S BUNGALOWS—BAPTIST STREET,
HOLYHEAD.

Contractors desirous of submitting a TENDER based on Plans and Specification for the BUNGALOWS invited to forward their tenders to the County Architect, Shire Hall, Holyhead, Anglesey, on or before the 28th JULY, 1961, together with cheque for £2 2s. which will be refunded on receipt of a bona-fide Tender.

Tenders must be received by the undersigned not later than 31st AUGUST, 1961.

The Council does not bind itself to accept the lowest or any Tender, nor will any allowance be made for tendering.

D. LLOYD HUGHES,
Clerk of the Council.

CONTRACTS

COUNTY BOROUGH OF HUDDERSFIELD.

RECONSTRUCTION OF PARTS OF NEW NORTH ROAD AND EDGERTON-HALIFAX ROAD, A.629.

TENDERS are invited for the RECONSTRUCTION of PARTS of the ABOVE-MENTIONED ROADS. The work consists of the Reconstruction of Carriageway Haunches in Reinforced Concrete (9,300 sq. yd.) and the Carpeting of Carriageways in Two Courses of Hot Rolled Asphalt (1,100 sq. yd. together with Kerbing, Channelling, Surfacing of Footways, Rebuilding of Stone and Concrete Retaining Walls, and ancillary works).

Plans and Conditions may be seen, and Forms of Tender, Specifications and Bills of Quantities obtained on application to A. L. PERCY, B.Sc., M.I.C.E., Borough Engineer and Surveyor, High Street Buildings, Huddersfield.

Deposit £2 2s., refundable on receipt of a bona-fide Tender not subsequently withdrawn.

Sealed Tenders, in plain sealed envelope provided, to be delivered to the undersigned by 10 a.m. on THURSDAY, 17th August, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

HARRY BANN,
Town Clerk.

Town Hall,
Huddersfield.

BOROUGH OF RAWTENSTALL.

MAKING-UP OF TURTON HOLLOW ROAD.

TENDERS are invited for the MAKING-UP of the ABOVE-MENTIONED ROAD, comprising 240 super. yd. Footpath and 1,335 super. yd. Carriageway, Surfaced with Bituminous Macadam. The Contract also includes the Building of approx. 70 lin. yd. Stone-faced Mass Concrete Retaining Wall, and other ancillary works.

Tender documents may be obtained from the Borough Engineer and Surveyor's Department, Town Hall, Rawtenstall, on payment of a deposit of £2 2s., refundable on receipt of a bona-fide Tender not subsequently withdrawn.

Closing date for receipt of Tenders is MONDAY, 26th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

COLIN CAMPBELL,
Town Clerk.

Town Hall,
Rawtenstall,
Rossendale.
18th July, 1961.

URBAN DISTRICT COUNCIL OF CONNAH'S QUAY.

REDHALL ESTATE EXTENSION—ROADWORKS AND SEWERAGE.

TENDERS are invited from experienced public works contractors for the above Contract, to be carried out in Connah's Quay, near Chester.

The work comprises the Laying of approx. 17,000 sq. yd. of Ash Slag and Tarmac Road Foundations (Footways and Street Lighting), together with 3,150 lin. yd. of 6in.-9in. Sewer and 3,300 lin. yd. of 6in.-27in. dia. Surface Water Sewerage.

Applications for the Specification and Bill of Quantities, together with an additional set of the latter only for the contractors' retention, should be made to the Council's Consulting Engineers, MESSRS. WARD, ASHCROFT AND PARKMAN, 33 The Temple, Dale Street, Liverpool, 2, to whom all tenders must be submitted by 5th August, payable to Connah's Quay Urban District Council, and returnable only upon the receipt of a bona-fide Tender completely priced. Documents and Drawings will be available from 31st July, 1961.

Drawings may be inspected either at the Offices of the Consulting Engineers or at the Council Offices during the usual hours. Tenders may be obtained on loan at a non-returnable charge of £3 3s., payable to Messrs. Ward, Ashcroft and Parkman.

Tenders, in plain sealed envelopes clearly marked "Red Hall Estate Extension," must be delivered to the undersigned not later than Noon on SATURDAY, 26th August, 1961, and should be accompanied by the names and addresses of three Engineers for whom similar work has been carried out.

The Council does not bind itself to accept the lowest or any Tender, and will not defray any expenses incurred by those tendering.

L. WILLIAMS, F.C.C.S.,
Clerk of the Council.

Council Offices,
Connah's Quay,
Flintshire.
19th July, 1961.

KNUTSFORD URBAN DISTRICT COUNCIL.

STREET LIGHTING.

TENDERS are invited for the SUPPLY and ERECTOR of 23 GROUP "A" STEEL COLUMNS and LANTERNS, and the REMOVAL of SIX EXISTING COLUMNS. Also for the Exchange of 46 Vertical Mounted 250-W MV Lanterns by the new Horizontal Pattern suitable for use with 250-W HV MY Lamps. Tender documents may be obtained from the Surveyor, Council Offices, 10, Red Kiln Lane, Knutsford.

Tenders, enclosed in plain sealed envelopes, appropriately endorsed, are to be delivered to the undersigned not later than Noon on MONDAY, 14th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

EDWARD MORLEY,
Clerk of the Council.

Council Offices,
Toft Road,
Knutsford.

WESTBURY URBAN DISTRICT COUNCIL.

Applications are invited from contractors wishing to be invited to TENDER for the CONSTRUCTION of approx. 1,500 super. yd. of NEW ROADS, 1,000 super. yd. of PUBLIC Pavements, and 550 yds. run of 6in. and 9in. Sewers at WELLHEAD SITE, WESTBURY, Wilts.

Contractors should apply to the undersigned not later than WEDNESDAY, 16th August, 1961, enclosing a deposit of £2 2s. which will be returned after receipt of a bona-fide Tender. Cheques should be made payable to the Westbury Urban District Council.

Bills of Quantities, Forms of Tender and Instructions to persons tendering will be issued early in September, when Plans and the Form of Contract will be available for inspection at this Office.

The Council do not bind themselves to accept the lowest or any Tender.

F. W. FEATHERSTONE,
Clerk of the Council.

Laverton Institute,
Westbury, Wilts.
19th July, 1961.

CONTRACTS

BOROUGH OF MAIDENHEAD.

COX GREEN HOUSING ESTATE.

CARRIAGeway RECONSTRUCTION AND FOOTWAY WORKS—STAGE II, SECTION I.

The COUNCIL invites TENDERS for the CONSTRUCTION of FLAG-PAVED FOOTWAYS with Cold Asphalt Surfaced Verges (approx. 2,150 sq. yd.), and for the REMOVAL of EXISTING TEMPORARY HOGGON CURBING, THE DRAFFON and the REPAIR BY MECHANICAL SPREADER of approx. 3,750 sq. yd. of TARMACADAM BASE and BITUMINOUS MACADAM WEARING COURSES to CARRIAGEWAYS, together with all incidental works.

Drawings may be obtained from the Borough Engineer and Surveyor, 14 Crawford Rise, Maidenhead, on payment of a deposit of Two Pounds (£2) which will be refunded upon receipt of a bona-fide Tender and the return of all documents.

Tenders, in plain sealed envelopes endorsed "Cox Green Housing Estate—Carriageway Reconstruction and Footway Works—Stage II, Section I," and bearing no mark or indication of the sender, must be delivered to me not later than MONDAY, the 21st August, 1961.

The Council does not bind itself to accept the lowest or any other Tender.

STANLEY PLATT,
Town Clerk.

Guildhall,
Maidenhead, Berks.

July, 1961.

BOROUGH OF FOLKESTONE.

CENTRAL STATION ROUNDABOUT—HOT ROLLED ASPHALT SURFACING.

TENDERS are invited for SUPPLYING and LAYING BY MECHANICAL SPREADER approx. 500 tons of Hot Rolled Asphalt Surfacing and Dense Bitumacadam Regulating Course.

Conditions of Contract, Specification and Form of Tender may be obtained from the Borough Engineer, West Terrace, Folkestone.

Tenders, in plain sealed envelopes endorsed "The Central Station Surfacing," must be received by the undersigned not later than TUESDAY, 8th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

N. C. SCRAGG,
Town Clerk.

WINSFORD URBAN DISTRICT COUNCIL.

WINSFORD SEWERAGE—PHASE I.

The Council intends very shortly to commence the CONSTRUCTION of the FIRST PHASE of a MAJOR SEWERAGE AND SEWAGE DISPOSAL SCHEME.

This phase comprises two separate sections of sewer to be connected temporarily to the existing system.

The Sewers will be in thickened Concrete Pipes, one section comprising approx. 1 mile of 21in. dia. and the other approx. 1/2 mile of 57in. dia. and 1/2 mile of 27in. and 33in. dia., together with a Brook Crossing in Steel Pipe, and Concrete Manholes.

The time factor is most important, and the period of the Contract will be limited to seven months.

The work will be carried out under the supervision of the Council's Consulting Engineers, MESSRS. WARD, ASHCROFT AND PARKMAN, of Liverpool.

Tenders will be invited from a selected list, and contractors wishing to be considered for inclusion on this list should submit details of their experience, together with the names of three Engineers to whom reference can be made as to their ability to the undersigned not later than 5th AUGUST, 1961.

Only contractors with considerable experience of similar work should apply.

N. BROWNING,
Clerk of the Council.

Over Hall,
Winsford, Cheshire.
20th July, 1961.

HUNTINGDON RURAL DISTRICT COUNCIL.

SEWERS FOR THRAPSTON ROAD HOUSING ESTATE.

TENDERS on a Fixed-price Basis are invited from suitably experienced contractors for the LAYING of approx. 300yds. of CONCRETE and STONEWARE SEWERS, 9in. and 6in. dia. together with Manholes and the Reinforcement of Root Surfaces.

Drawings may be seen at the Offices of the Council's Consulting Engineers, PICK, EVERARD, KEAY AND GIMSON, 6 Millstone Lane, Leicester, from whom the Specifications and Bills of Quantities may be obtained on payment of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender and the return of all documents supplied.

Tenders, on the loose form and in the envelope provided, are to be delivered to the undersigned not later than 10 o'clock in the Forenoon of WEDNESDAY, 26th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

W. MIDWOOD,
Clerk of the Council.

Council Offices,
Montague House,
Huntingdon.
19th July, 1961.

BANBURY RURAL DISTRICT COUNCIL.

ADDERBURY SEWERAGE SCHEME.

FIXED-PRICE TENDERS are invited from experienced civil engineering contractors for TAKING-UP and RE-LAYING approx. 1,310 lin. yd. of 9in. dia. and 650 lin. yd. of 6in. dia. SEWERS, LAYING approx. 520 lin. yd. new 9in. dia. and 1,020 lin. yd. of new 6in. dia. SEWERS, together with the Construction of Manholes, 12in. dia. and 4in. dia. House Connections and other incidental works.

Copies of the Conditions of Contract, Form of Tender, Specification and Bills of Quantities may be obtained from the Engineer and Surveyor, Bodicote House, near Banbury, on payment of a deposit of Five Guineas which will be refunded upon receipt of a bona-fide Tender and the return of all documents. Drawings may be inspected at the Engineer and Surveyor's Office during normal working hours.

Tenders, in plain sealed envelopes endorsed "Adderbury Sewerage," must be delivered to the undersigned not later than Noon on WEDNESDAY, 6th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. K. TEASDALE,
Clerk of the Council.

Bodicote House,
Near Banbury,
Oxon.
10th July, 1961.

CONTRACTS

BOROUGH OF ILFORD.

ALTERATIONS TO FAIRLOP SECONDARY GIRLS' SCHOOL.

The CORPORATION invite TENDERS for THESE WORKS.

Forms of Tender, Bills of Quantities and Drawings may be obtained from the Borough Engineer, Town Hall, Ilford, upon written application and payment of a deposit of £2 2s. which will be returned on receipt of a bona-fide Tender not subsequently withdrawn, and all documents issued. Conditions of Contract may be inspected at the Borough Engineer's Office.

Tenders, in plain sealed envelopes endorsed "Tender for Alterations to Fairlop Secondary Girls' School," but not bearing my name or address, indicating the sender, must be delivered to the TOWN CLERK, Town Hall, Ilford, not later than 4 p.m. on TUESDAY, 22nd August, 1961. Priced Bills of Quantities must be returned at the same time as the Tender in the special envelope provided.

The Corporation do not bind themselves to accept the lowest or any Tender.

BOROUGH OF ILFORD.

RECONSTRUCTION OF NEW NORTH ROAD (PART)—FENCEPIECE ROAD TO HAINTAIL STATION.

The CORPORATION invites TENDERS for the RECONSTRUCTION of approx. 5,000 sq. yd. of EXISTING CARRIAGeway in 9in. Reinforced Concrete on a 6in. Hardcore Base, together with the Resurfacing of approx. 1,200 lin. yd. of Granite Kerb and 3,400 lin. yd. of Footway together with all incidental works, including the Resurfacing of approx. 880 sq. yd. of existing Concrete Carrigeway with Rolled Asphalt by a nominated sub-contractor.

Conditions of Contract and Drawings may be inspected upon application to the Borough Engineer and Surveyor, Town Hall, Ilford, from whom the Special Conditions, Specification, Bills of Quantities and Form of Tender may be obtained on payment of a deposit of Two Guineas which is returnable on receipt of a bona-fide Tender not subsequently withdrawn.

Sealed Tenders, in plain sealed envelope (which will be provided), bearing no indication of the tenderer and endorsed "Tender for the Reconstruction of New North Road (Part)" must be delivered to the TOWN CLERK, Town Hall, Ilford, not later than 4 p.m. on the 22nd AUGUST, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

PETERBOROUGH RURAL DISTRICT COUNCIL.

CASTOR, AILSWORTH, UPTON AND SUTTON RESERVOIR, BOOSTER STATION AND WATER MAINS.

TENDERS are invited from contractors experienced in similar work for the CONSTRUCTION of CONCRETE RESERVOIR of 100,000 cubic yds. capacity and BOOSTER STATION together with the Laying of approx. 1,300 lin. yd. of Asbestos-cement Water Mains.

A Form of Tender and relative documents can be obtained on payment of a deposit of Two Guineas from the Contractors' Agents, MESSRS. STIRLING MAYNARD AND PARTNERS, 8 Station Chambers, Peterborough. The deposit will be returned on receipt of a bona-fide Tender.

Tenders, in plain envelopes endorsed "Tender for Castor Water Main" to be delivered to the undersigned not later than Noon on MONDAY, 1st September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

G. W. WRIGHT,
Clerk to the Council.

51 Priorygate,
Peterborough.
20th July, 1961.

YARMOOUTH (ISLE OF WIGHT) HARBOUR COMMISSIONERS.

CONTRACT NO. 4—QUAY EXTENSION.

FIXED-PRICE TENDERS are invited from contractors experienced in this class of work for the CONSTRUCTION of an EXTENSION of the QUAY at Yarmouth, Isle of Wight.

The work comprises about 725ft. run of Sheet Steel piles 10x5ft. 10in. wide, about 10ft. long, along to an anchorage beam in the causeway road; some 8,000 cu. yds. of Selected Filling on a Brushwood Base; about 4,500 super. yd. of Surfacing, and the Construction of a Dinghy Slipway, and other incidental works.

Drawings, Specification, Bills of Quantities and Form of Tender may be obtained on or after Friday, 28th July, from the Commissioners' Consulting Engineers, LEMON AND BLIZARD, Telford House, Hulme Road, Southampton, upon payment of a deposit of £5 5s. by cheque made payable to the Commissioners, which will be returned only upon the receipt of a bona-fide Tender and the return of all documents.

Tenders, in a plain sealed envelope endorsed "Tender—Contract No. 4—Quay Extension," must be delivered by Noon on THURSDAY, 31st August, to MISS I. MULLINS, Clerk to the Yarmouth Harbour Commissioners, Isle of Wight.

The Commissioners do not bind themselves to accept the lowest or any Tender.

SOMERSET RIVER BOARD.

WICK ST. LAWRENCE WALL SCHEME NO. 3.

IMPROVEMENT OF SEA DEFENCES.

TENDERS are invited for WDRK in connection with the ABOVE SCHEME, the site of which is situated on the coast 4 miles N.W. of Weston-super-Mare, Somerset. It comprises the FOLLOWING:

- (1) Construction of Access Road on top of the existing sea bank, 10ft. wide, 1,000ft. long.
- (2) Construction of New Toe Wall 1,000ft. long of Stone Pitching Grouted with Hot Filled Bitumen.
- (3) Relining of walls of the Sea Wall Face with Block Stone.
- (4) Grouting with Hot Filled Bitumen 8,450 sq. yds. of Block Stone Pitching on the Sea Face.

Contract documents may be obtained from the undersigned and Tenders, in the sealed envelope provided, must be received not later than 10 a.m. on 6th SEPTEMBER, 1961.

The Board do not bind themselves to accept the lowest or any Tender.

E. L. KELTING, O.B.E., J.P., M.I.C.E., Barrister-at-Law, Engineer to the Board.

Somerset River Board,
Divisional Engineer's Office,
Stonewell Lane,
Congresbury,
Near Bristol.

July 27 1961

CONTRACTS

BOROUGH OF TOTTENHAM.
PUBLIC STREET LIGHTING IMPROVEMENTS.

TENDERS are invited for the FOLLOWING, in connection with Stage IX Lighting Improvements Scheme, totalling approx. 1,000 Group "B" installations for various district roads throughout the Borough:

- (a) Supply and Erection of 15ft. Concrete Lighting Columns and Brackets.
- (b) Supply only 60-W Totally Enclosed Sodium Lantens.
- (c) Supply only 60-W Sodium Lamp Control Gear.

Drawings may be seen at the Borough Engineer's Department, and necessary documents obtained from the Borough Engineer and Surveyor, Town Hall, Tottenham, N.15, on payment of £2 deposit which will be refunded on receipt of a bona-fide Tender. Sealed Tenders, enclosed in the envelope provided, must reach the undersigned not later than 12 Noon on FRIDAY, 18th August, 1961.

The Council reserve the right to let the three Tenders separately, and do not bind themselves to accept the lowest or any Tender.

M. LINDSAY TAYLOR, LL.B.,
Town Clerk.

Town Hall,
Tottenham, N.15.

INCE-IN-MAKERFIELD URBAN DISTRICT COUNCIL.

CONSTRUCTION OF ROADS, SEWERS AND WATER MAINS AND INDUSTRIAL BEEH BEE HOSING SITE.

TENDERS are invited for the CONSTRUCTION of approx. 2,450 lin. yd. of CONCRETE KERBS and Channels, 700 lin. yd. of CAST IRON DRAINEAGE TUBE and Pipe Course, and 2,300 lin. yd. of SEWERS of diameters from 6in. to 24in. and other appurtenant work on the ABOVE CONTRACT.

Specifications may be obtained from, and Conditions of Contract inspected on application to, the Surveyor, Town Hall, Ince, near Wigan.

Tenders, in plain sealed envelopes endorsed "Industrial Bee Housing Site," and bearing no indication of the sender, should be received by the undersigned not later than Noon on TUESDAY, the 8th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

T. B. BARNES,
Clerk of the Council.

Town Hall,
Ince-in-Makerfield,
Near Wigan.
20th July, 1961.

BEESTON AND STAPLEFORD URBAN DISTRICT COUNCIL.

NOTTINGHAM ROAD, CHILWELL.

WIDENING AND RECONSTRUCTION.

TENDERS are invited for the WIDENING and RECONSTRUCTION of the ABOVE TRUNK ROAD, including 1,000 cu. yd. Excavation, 550 lin. yd. Kerbing, 1,400 sq. yd. Cement-bound Granular Base, and 3,400 sq. yd. Hot Rolled Asphalt Surfacing.

Bills of Quantities may be obtained from the Engineer and Surveyor, Town Hall, Beeston, upon payment of a deposit of One Guinea which will be returnable upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be returned to the undersigned, in plain sealed envelopes, marked "Nottingham Road, Chilwell," not later than Noon on FRIDAY, 25th August, 1961.

H. D. JEFFRIES,
Clerk of the Council.

Town Hall,
Beeston.

SIDMOUTH URBAN DISTRICT COUNCIL.

SUPPLY OF BULLDOZER.

TENDERS are invited for the SUPPLY and DELIVERY of a NEW BULLDOZER for Refuse Tip Work, and/or the purchase of the Council's existing machine.

The new machine is to be to refuse control specification and to have a Diesel engine of approx. 50-h.p. Every Tender should be accompanied by full details and specifications. A successful tenderer may be required to take the Council's present David Brown 501TD Bulldozer in part exchange, and the Tender should state clearly the allowance for this machine, which may be inspected by appointment with the undersigned, from whom full details may be obtained.

Tenders are to be endorsed "Bulldozer," and should be delivered to the undersigned not later than 12 Noon on MONDAY, 21st August, 1961.

T. H. CHAMBERS,
Engineer and Surveyor.

Council Offices,
Sidmouth.
20th July, 1961.

SPALDING RURAL DISTRICT COUNCIL.

EXTENSIONS TO CROWLAND SEWAGE DISPOSAL WORKS.

CONTRACTS 1 AND 2.

TENDERS are invited for the FOLLOWING CONTRACTS:

CONTRACT NO. 1—Extension to the Crowland Sewage Disposal Works, involving the Construction of additional Balancing Settlement and Humus Tanks, Filter Beds, together with a Sludge Pumping Station, Digestion Tanks and Sludge Drying Beds, and the Laying of 720yd. of 6in. dia. Rising Main to the Works from the main Pumping Station.

CONTRACT NO. 2—the Supply and Erection of one 100 g.p.m. Sludge Pump, with ancillary equipment.

Contractors wishing to tender should apply to the Council's Consulting Engineers, MESSRS. J. H. HAISTE AND PARTNERS, 44/46 Bridge Street, Peterborough, and the deposit should be made payable to the Spalding Rural District Council, such deposit to be refunded on receipt of a bona-fide Tender and the return of the documents.

Drawings may be inspected at either the Council Offices or the Consulting Engineers' Office. Tenders should be submitted to the undersigned not later than 12 Noon on FRIDAY, 25th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

MAURICE CLAYE,
Clerk of the Council.

Rural Council Offices,
Priory Road,
Spalding, Lincs.

SUPPLEMENT

THE CONTRACT JOURNAL

CONTRACTS

HERTFORDSHIRE COUNTY COUNCIL.

TENDERS are invited for the FOLLOWING CONTRACT:

A.41.—Stanstead Abbotts Sawbridgeworth Road:

Construction of Eastwick Diversion.

The works consist of the Construction of a length of 600 yd. of New Road in a diversion of A.41 at Eastwick, and an adjoining length of 400yd. of Country Road Widening comprising Earthworks, Lean-Mix Concrete Foundations, Asphalt Surfacing, Culverts, and ancillary works.

Tender documents may be obtained from, and Drawings inspected by appointment during normal working hours at, the Office of the County Surveyor, County Hall, Hertford, on or after Monday, 14th August, 1961.

Tenders are to be returned to the CLERK OF THE COUNTY COUNCIL not later than 6th SEPTEMBER, 1961.

The County Council are not bound to accept the lowest or any Tender.

COUNTY BOROUGH OF PRESTON.

FIXED-PRICE TENDERS are invited for the RESURFACING in 3in. Two-coat Hot Rolled Asphalt of SKIRLINGTON ROAD, from Dodgson Road to Ribbleton Lane and Harewood Road to the Level Crossing.

Specification and Bills of Quantities may be obtained from the Borough Engineer and Surveyor, Municipal Building, Preston, on payment of a deposit of Two Guineas which will be returned on receipt of a bona-fide Tender.

Tenders to be received by me not later than 10.30 a.m. on THURSDAY, 17th August, 1961.

W. E. E. LOCKLEY,
Town Clerk.

Municipal Building,

Preston.

BOROUGH OF ROMFORD.

CHELMSFORD AVENUE ADVENTURE PLAYGROUND—PLAY HUT AND TOILETS.

TENDERS are invited for the PROVISION and ERECTION of a SECTIONAL CONCRETE BUILDING measuring approx. 36ft. x 18ft. The Building is required to have a Flat Roof, and the Contract will include for Foundation, Work, Draining, Plumbing, etc.

Form of Tender, Specification and Bills of Quantities may be obtained from the Borough Engineer and Surveyor, Town Hall, Romford, on deposit of a cheque for £2 2s. returnable on receipt by the TOWN CLERK of a bona-fide Tender, in the envelope provided, by 22nd AUGUST.

BOROUGH OF BURY ST. EDMUNDS.

ERECTION OF 10 FLATS—ROSEMARY ROAD, BURY ST. EDMUNDS.

TENDERS are invited for the ERECTION of the ABOVE.

Bills of Quantities and Form of Tender will be available from Friday, 21st July, 1961, and may be obtained upon application to the Borough Engineer and Surveyor at the Borough Offices.

A deposit of £2 2s. is required, which will be refunded on receipt of a bona-fide Tender.

Drawings may be inspected at the Borough Engineer and Surveyor's Office during normal office hours.

Tenders must be returned, sealed in the envelope provided, to the undersigned by not later than 12 Noon on the 18th AUGUST, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

RICHARD R. HILES,
Town Clerk.

Borough Offices,

Bury St. Edmunds.
19th July, 1961.

BOROUGH OF BARKING.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

RECONSTRUCTION OF ALFRED'S WAY, A.13, BETWEEN GASCOIGNE ROAD AND KING EDWARD'S ROAD.

TENDERS, returnable by 9 a.m. on MONDAY, the 28th August, 1961, are invited for the BREAKING-UP, DEMOLITION, REINFORCED CONCRETE AND ASPHALT, and GASHOGGAGE, and RECONSTRUCTION with 10in. thick REINFORCED CONCRETE SLAB, 1,720 sq. yd. in extent, together with ancillary Drainage and Kerbing Works.

Specification, Bill of Quantities and Form of Tender may be obtained on application to the Borough Engineer and Surveyor, Town Hall, Barking, Essex.

E. R. FARR,
Town Clerk.

Town Hall,

Barking.
26th July, 1961.

BOROUGH OF BEBINGTON.

HOT ROLLED ASPHALT SURFACING OF ROADS.

TENDERS are invited for the SURFACING with HOT ROLLED ASPHALT SAND and SAND/STONE CARPETS on the FOLLOWING ROADS:

New Chester Road, A.41; New Chester Road, B.5136; Spital Road, B.5137; and Airport Road, Class III.

Forms of Tender, Specification and Bills of Quantities may be obtained from the Borough Engineer and Surveyor, Town Hall, Bebington, on deposit of £1 15s., returnable on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "Tenders—Hot Rolled Asphalt Surfacing," to be received by the undersigned not later than Noon on the 14th AUGUST, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

G. CHAPPELL,
Town Clerk.

Town Hall,

Bebington, Ches.
26th July, 1961.

HODDESDON URBAN DISTRICT COUNCIL.

OIL HEATING INSTALLATION.

TENDERS are invited for the REPLACEMENT of the existing Boilers and the INSTALLATION of a WHITWALL CALORIFER and the SIDEPLY and FITTING of an OIL HEATING INSTALLATION at their Office.

Tender Forms and Specifications may be obtained from the undersigned, to be returned in a plain envelope marked "Tender—Oil Heating Installation," not later than 12 Noon on THURSDAY, 10th August, 1961.

LEONARD G. JOHNS,
Clerk of the Council.

Council Offices,

Hoddesdon, Herts.
21st July, 1961.

Council Offices,
Hoddesdon, Herts.
21st July, 1961.

Clerk of the Council.

Council Offices,
Hoddesdon, Herts.
21st July, 1961.

Clerk of the Council.

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21st July, 1961.

Clerk of the Council.

Council Offices,
Hoddesdon, Herts.
21st July, 1961.

Clerk of the Council.

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21st July, 1961.

Clerk of the Council.

Council Offices,
Hoddesdon, Herts.
21st July, 1961.

CONTRACTS

ARGYLL COUNTY COUNCIL
ACCESS ROADWAY TO COLL PIER.

The County Council will shortly be issuing contract documents and Drawings for the CONSTRUCTION of approx. 1/2-mile of 9ft. wide ROADWAY from Aringarou to the site of a proposed pier.

Contractors experienced in road works who are prompted to TENDER for THIS WORK are asked to submit an application so that their names may be placed on a list of persons from whom Tenders may be invited.

The County Council do not bind themselves to invite Tenders from all applicants or to accept the lowest or any offer.

Applications should be submitted to A. M. Robertson, Esq., Consulting Engineer, 40 Sinclair Street, Helensburgh, by 3rd AUGUST.

A. D. JACKSON,
County Clerk.

CITY OF ST. ALBANS.
HARPENDEN ROAD FOUL SEWER.

TENDERS are invited for the CONSTRUCTION of HARPENDEN ROAD FOUL SEWER, comprising approx. 860 lin. yd. of 9in. dia. Stoneware Pipe and 13 Manholes.

Tender documents may be obtained on application to the City Engineer, 16 St. Peter's Street, St. Albans, where the Drawings may be inspected during normal office hours.

Tenders are to be delivered to the undersigned in the envelope provided, not later than Noon on MONDAY, 21st August, 1961.

The Council does not bind itself to accept the lowest or any Tender received.

(Signed) B. V. ENTWISTLE,
Town Clerk.

38 St. Peter's Street,
St. Albans, Herts.

UPPINGHAM RURAL DISTRICT COUNCIL.

BARROWDEN SEWERAGE AND SEWAGE DISPOSAL.

TENDERS are invited from suitably experienced contractors for the LAYING of 3,500yd. of SEWERS of 9in. and 6in. dia. together with the construction of Sewage Disposal Works at BARROWDEN, five miles east of Uppingham.

Key Plan, Specification and Bill of Quantities can be obtained from the Council's Consulting Engineers, MESSRS. PICK, EVERARD, KEAY AND GIMSON, 6 Millstone Lane, Leicester, on payment of a deposit of £100. Quotations should be accompanied by a bond-fide Tender and return of documents. Further detail drawings are available for inspection at the same office.

Tenders are to be delivered to the undersigned not later than 12 Noon on TUESDAY, 5th September, 1961.

The Council does not bind themselves to accept the lowest or any Tender.

NOEL BRANSTON,
Clerk of the Council.

Council Offices,
Orange Street,
Uppingham,
Rutland.

SOUTH DERBYSHIRE WATER BOARD.

REINFORCED CONCRETE SERVICE RESERVOIR.

Contractors possessing the necessary experience and plant, and wishing to TENDER for the ABOVE SCHEME, are invited to submit their names to the Engineer and General Manager, 1 Tenant Street, Derby, by 11th AUGUST, 1961.

The work consists of the Construction of a covered Reinforced Concrete Service Reservoir, of 10 million gallons capacity and a depth of 24ft.

Applications must be accompanied by a list of works of a similar nature and magnitude carried out by the applicant.

N. S. FISHER,
Clerk to the Board.

22nd July, 1961.

GENERAL SHOPFITTING AND SUPPLIES, LTD.

Colchester, London and Bristol are desirous of contacting small building contractors who would undertake general constructional work and alterations in their own locality, in connection with the company's shopfitting operations. All suitable applicants will be interviewed at their premises—Write in first instance, in confidence, to Managing Director, General Shopfitting and Supplies Ltd., Bridgefield Gardens, Greenstead Road, Colchester.

STEEL FIXING AND BENDING SUB-CONTRACTS WANTED. Keen prices and fully mobile—Write: H.C.F., 144 Outlands Drive, Slough, Bucks., or phone: Slough 21883.

For Contracts received too late for classification see page 453

APPOINTMENTS VACANT

CHEPSTOW RURAL DISTRICT COUNCIL.

CALDICOT SEWERAGE SCHEME—CONTRACT 1.

APPOINTMENT OF A RESIDENT ENGINEER.

APPLICATIONS are invited for the TEMPORARY POST of RESIDENT ENGINEER at a salary within the range of £1,250-£1,350 p.a., on the staff of the Consulting Engineers, THOMAS AND MORGAN AND PARTNERS.

The appointment is for the supervision of a contract at Caldicot, Monmouthshire, comprising the Laying of 18in. and 21in. dia. concrete sewers, 10in. and 18in. cast-iron rising mains, a reinforced concrete pumping station founded at 24ft. below ground level in waterlogged ground, and the construction of a 30ft. dia. sea outlet laid on piles.

The contract is scheduled to commence in approximately one month's time, and is for an estimated period of 10 months, with the possibility of an extension under a separate contract for the construction of the sewage disposal works.

Applicants must be Corporate Members of the Institution of Civil Engineers, of having similar qualification, and have had site experience in the supervision of reinforced concrete works, large-diameter pipelaying and pile driving.

Applications, endorsed "Resident Engineer," stating age, qualifications, experience, accompanied by the names and addresses of three Engineers to whom reference may be made, must be sent to the undersigned not later than FRIDAY, 4th August, 1961.

THOMAS AND MORGAN AND PARTNERS.

23 Gelliwastad Road,
Pontypridd.

APPOINTMENTS VACANT

MINISTRY OF LABOUR.

ROAD RESEARCH LABORATORY (D.S.I.R.), Harmondsworth, Middlesex. REQUIRES CIVIL ENGINEERS, PHYSICISTS, MATHEMATICIANS, STATISTICIANS in the Senior Scientific and Scientific Officer Grades, for work in the Tropical Section.

Duties concern problems of roadbuilding and road transport in tropical and sub-tropical areas, involving soil mechanics, traffic engineering, and economics studies.

Section is based at Harmondsworth, and work involves regular visits overseas, with, in some instances, postings for periods of one or two years on specific projects; usual Foreign Service Allowances apply.

Qualifications: First- or Second-class Hons. Degree for S.S.O., some years of appropriate post-graduate research is required.

Salary within range S.O., £773-£1,267; S.S.O., £1,392-£1,714. Prospects of promotion to Principal Scientific Officer (range up to £2,478), with possibility of further posts.

Laboratory is expected to move to Crowthorne, near Bracknell, Berkshire, in 1963/64. Application Form and further information from DIRECTOR OF ROAD RESEARCH (address above), quoting "ROAD 8XW."

TANGANYIKA.

MINISTRY OF AGRICULTURE.

EXECUTIVE ENGINEERS.

Qualifications: Candidates, preferably between 25 and 40, must have a University Degree, or equivalent, recognised as granting exemption from Parts I and II of the Final Examination of the Institution of Civil Engineers, with at least four years' experience in the design and construction of civil engineering works, particularly in connection with water supplies.

Duties: To carry out field investigation and surveys needed in connection with rural water supplies and irrigation works. To prepare designs and carry out construction.

Term of Appointment: Contract for one tour of 21-27 months.

Total Emoluments (including gratuity) in Scale £1,582-£3,060 p.a.

Free passages. Generous leave. Education allowances £150-£200 p.a. for each child.

Apply DIRECTOR OF RECRUITMENT, Colonial Office, London, S.W.1, quoting BCD112/9/03/D14 (Post B), and giving full name, age, and brief details of qualifications and experience.

BOROUGH OF TOTTENHAM.

PUBLIC WORKS DEPARTMENT.

CLERK OF WORKS.

APPLICATIONS are invited for an ESTABLISHED POSITION of ESTIMATING AND COSTING SURVEYOR in the Borough Engineer and Surveyor's Department, A.P.T. Grade II (£815-£960 p.a. London Weighting allowance of £25-£40 p.a. payable in addition), and commencing salary according to experience and ability.

Application Form and Conditions of Appointment, which should be returned not later than 12th AUGUST, 1961, are obtainable from the BOROUGH ENGINEER AND SURVEYOR (C.J.), Town Hall, Tottenham, N.15.

M. LINDSAY TAYLOR,
Town Clerk.

CITY OF BIRMINGHAM.

PUBLIC WORKS DEPARTMENT.

CLERK OF WORKS.

APPLICATIONS are invited for the APPOINTMENT of CLERK OF WORKS (Structural and Civil Engineering), in connection with the construction of elevated carriageways, vehicle underpasses, subways, etc., in the development of the City.

Applicants should have considerable experience in reinforced concrete construction and general civil engineering works and building construction, and be able to obtain high standards of workmanship.

Salary, according to experience, within Misc. Division, Grade VIII (£875-£925 p.a.).

The post is permanent, superannuable, and subject to a medical examination.

Applications, stating age, qualifications and experience, should be received by the undersigned not later than 12th AUGUST, 1961.

HERBERT J. MANZONI,
City Engineer and Surveyor.

Baskerville House,
Civic Centre,
Birmingham, 1.

HAYES AND HARLINGTON URBAN DISTRICT COUNCIL.

CIVIL ENGINEERING CLERK OF WORKS REQUIRED by the above Council. Salary within Misc. Grade VI, i.e., £760-£825 per annum plus London Weighting. Duties consist mainly small road improvement and sewerage schemes.

Select to satisfaction service, the person appointed will be transferred from post to job. A continuing programme of work is anticipated. Working hours related to those of contractor, which normally attracts payment at overtime rates.

No housing accommodation available.

Further particulars, Form of Application, etc., available from the undersigned, which, when completed, must be returned by 29th AUGUST, 1961.

GEORGE HOPPER,
Clerk and Solicitor.

Town Hall, Hayes, Middx.

URBAN DISTRICT COUNCIL OF GAINSBOROUGH.

APPOINTMENT OF CLERK OF WORKS AND BUILDING INSPECTOR.

APPLICATIONS are invited from suitably experienced persons for the above PERMANENT APPOINTMENT in the Surveyor's Department at a salary within A.P.T. Grade I (£645-£815 p.a.). The commencing salary will be fixed according to experience and qualifications, and a car allowance will be paid.

Applicants should have had experience in supervising civil engineering works, the erection of buildings, works of maintenance, etc., and the duties will include building inspection work.

The appointment will be subject to the National Scheme of Conditions of Service, to a medical examination and to one month's notice on either side.

Housing accommodation will be available if required.

Applications, giving full details and the names of two referees, must be delivered to the undersigned not later than 5th AUGUST, 1961.

Cavassing will disqualify.

H. P. DOREY,
Clerk of the Council.

Council Offices,
6 Lord Street,
Gainsborough.

14th July, 1961.

APPOINTMENTS VACANT

UGANDA.

MINISTRY OF WORKS.

EXECUTIVE ENGINEERS (ROADS).

Qualifications: Candidates (aged 23-45) should have either a University Degree, or equivalent, recognised as practical experience; or have passed, or be otherwise qualified from Parts I and II of the Final Examinations of the Institution of Civil Engineers, and have had or less than five years' approved practical experience, or be A.M.I.Mun.E. Experience in road construction would be an advantage.

Duties: Resident Engineer on road construction projects. May be required to live in the construction camp.

Terms of Appointment: On contract for one tour of 21-27 months in the first instance.

Total Emoluments (salary plus gratuity) in Scale £1,582-£3,060 p.a.

Free passages. Free medical attention. Taxation at local rates.

Apply DIRECTOR OF RECRUITMENT, Colonial Office, London, S.W.1, quoting BCD112/9/03/D14 (Post B), and giving full name, age, and brief details of qualifications and experience.

CIVIL SERVICE COMMISSION.

INLAND REVENUE VALUATION OFFICE.

VALUERS.

Pensionable posts in offices in England and Wales, and in Scotland for professionally qualified men and women at least 24 and under 34 on 1st October, 1961; extension for candidates with Regular Forces service or Overseas Civil Service.

Salary (Inner London) from £913 (24) to £1,318 (34 or over); scale maximum £1,490.

Promotion prospects.

Write CIVIL SERVICE COMMISSION, Burlington Gardens, London, W.1, for Application Form, quoting 149/61/3. Closing date: 17th OCTOBER, 1961.

GLOUCESTERSHIRE COUNTY COUNCIL.

LONDON-SOUTH WALES MOTORWAY.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS in connection with the design of the London-South Wales Motorway, between the A.38 and the Wiltshire boundary:

(a) Senior Assistant Engineers — Scale "B" (£1,535-£1,670).
(b) Senior Assistant Engineer — Scale "A" (£1,430-£1,565).
(c) Senior Assistant Laboratory Engineer — A.P.T. V (£1,310-£1,480).

For appointments (a) and (b), candidates should have had experience in the design and/or construction of major road projects, or in the design of bridges.

Applications, on forms to be obtained from the County Surveyor, Quay Street, Gloucester, should be submitted not later than 21st AUGUST, 1961, with the names of at least two referees.

GUY H. DAVIS,
Shire Hall,
Gloucester.

Clerk of the County Council.

METROPOLITAN BOROUGH OF FULHAM.

BOROUGH ARCHITECT'S AND HOUSING DEPARTMENT.

CLERKS OF WORKS REQUIRED for: (i) Multi-storey block library, Civil Defence headquarters, and housing; (ii) Baths, public laundry and library; and (iii) Multi-storey housing. Experienced reinforced concrete, new materials and finishings.

Salary, according to experience, in range £19-£23 per week. Duration of work two years in first instance.

Application Forms, to be returned by 9th AUGUST, from TOWN CLERK, Town Hall, Fulham, S.W.6.

BOROUGH OF TOTTENHAM.

BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

The FOLLOWING POSITION on the Established Staff provides varied and interesting work in a Municipal Borough of 170,000 population:

Senior Civil Engineer-Assistant — A.P.T. Grade V (£1,355-£1,525 p.a.). Commencing salary will be according to experience and ability.

Applicants should hold a final professional qualification in an appropriate University degree.

Five-day week; staff restaurant facilities; part removal expenses reimbursed.

Application Form, obtainable from the Borough Engineer and Surveyor (C.J.), Town Hall, Tottenham, N.15, should be returned to him not later than the 14th AUGUST, 1961.

M. LINDSAY TAYLOR,
Town Clerk.

CITY AND COUNTY OF BRISTOL.

APPOINTMENT OF CIVIL AND STRUCTURAL ENGINEERS—GRADE A.P.T. IV (£1,140-£1,310).

APPLICATIONS invited for POSTS of CIVIL and STRUCTURAL ENGINEERS in Main Drainage Section of City Engineer and Planning Officer's Department. Candidates for civil engineering posts should have good general experience, including training in Municipal Engineering, with some main drainage experience.

Candidates for structural engineering posts should be capable of preparing reinforced concrete details for tanks and other load-bearing structures, but experience with steel筋 Reinforcement not essential.

Applicants should have a British University Degree in Engineering and/or be Corporate Members of appropriate professional institution, and have appropriate experience for post.

Posts permanent, pensionable; medical examination and, except in case of an officer transferred from another Local Authority, six months probationary period.

Five-day week. Staff restaurant available.

Housing needs of successful candidates and question of a contribution towards removal expenses favourably considered.

Applications should be arranged in following order: Age, nationality, and whether married or single; education; training; professional qualifications; present position, with salary and date of appointment; previous positions, with salaries and dates of appointment; details of experience; any further remarks in support of application; notice required to terminate present appointment; whether related to a member or senior officer of the Council; names of two referees.

Cavassing disqualifies.

Applications, clearly indicating post concerned, to reach CITY ENGINEER AND PLANNING OFFICER, Cabot House, Deanery Road, Bristol, 1, by 14th AUGUST.

APPOINTMENTS VACANT
GOVERNMENT OF UGANDA.
EXECUTIVE ENGINEER (STRUCTURAL).

Qualifications: Candidates (aged 29-45) should have either a University Degree, or equivalent, recognised by the Institution of Civil Engineers plus two years' practical experience; or have passed, or be otherwise exempt from, Parts I and II of the Final Examinations of the Institution of Civil Engineers, and have had not less than five years' approved practical experience, or be A.M.I.Mun.E.

Duties: To carry out the general duties of a qualified Civil Engineer, with emphasis on structural design work.

Term of Appointment: On contract for one tour of 27 months in the first instance.

Total Emoluments (salary plus gratuity) in Scale £1,582-£3,060 p.a.

Free passages. Taxation at local rates.

Apply DIRECTOR OF RECRUITMENT, Colonial Office, London, S.W.1, quoting BCD112/9/03(Post A) D14, giving full name, age, and brief details of qualifications and experience.

LANCASHIRE COUNTY COUNCIL.

APPLICATIONS are invited from suitably qualified **ENGINEERING ASSISTANTS** for vacancies in Grades A.P.T. III (£960-£1,140), and A.P.T. IV (£1,140-£1,310) in the County Surveyor's Department at Preston, in connection with large-scale road and bridge schemes, drainage and sewerage work, soils mechanics and private street works.

The commencing salaries will be in accordance with qualifications and experience.

Applications, stating the Grade applied for, and quoting Ref. No. 123/12, names and addresses of two referees, and details of qualifications and experience, to be delivered to the **COUNTY SURVEYOR, P.O. Box No. 9, County Hall, Preston.**

CITY OF WAKEFIELD.

CITY ENGINEER'S DEPARTMENT.

APPLICATIONS are invited for the **FOLLOWING SUPERANNUABLE APPOINTMENTS** in the Town Planning and Architectural Sections:

(a) Chief Town Planning Assistant—Grade A.P.T. V. (£1,310-£1,480 p.a.), Post No. 28. The commencing salary is to be according to qualifications and experience. Applications must be A.M.T.P.I. and the successful applicant will be required to take charge of the Town Planning section of the Department.

(b) Town Planning Assistant, Grade A.P.T. III (£960-£1,140 p.a.), Post No. 29A. Preference will be given to applicants who are A.T.P.I.

(c) Town Planning Assistant, Grade A.P.T. II (£815-£960 p.a.), Post No. 30. Applicants should have had experience in a Town Planning Office, and preference will be given to those who have passed the Intermediate Examination of the Town Planning Architectural Section.

(a) Assistant Architects, Grade A.P.T. III (£960-£1,140). Posts Nos. 10A and 12. Preference will be given to applicants who are A.R.I.B.A. The Department has at present a varied programme of interesting architectural projects, and these appointments offer good experience to those wishing to obtain further architectural experience with a Local Authority.

Housing accommodation will be provided if necessary. Commuting week is in operation. Applications, stating age, qualifications and experience, together with the names of two referees, to be sent to the **CITY ENGINEER, Town Hall, Wakefield**, by the 18th AUGUST, 1961.

ESHER URBAN DISTRICT COUNCIL.
APPOINTMENT OF SENIOR ASSISTANT ENGINEER.
GRADE A.P.T. IV.V.

APPLICATIONS are invited for the **ABOVE-MENTIONED POSITION** in the **Engineering and Planning** Officer from persons who have had specialised experience in the design and carrying-out of additions and alterations to sewage disposal works, as the appointment is primarily in this connection.

The salary will be according to Grade A.P.T. IV/V (£1,140-£1,480 plus London Weighting allowance). The commencing salary will be at an appropriate point dependent upon the qualifications and experience of the person appointed.

Applicants must be Associate Members of the Institution of Civil Engineers, or holders of the Testamur of the Institution of Municipal Engineers. Housing accommodation is offered, if required.

Form of Application and further particulars may be obtained from the **Engineering and Surveyor and Planning Officer, Council Offices, Esher**, to whom applications must be returned by the 21st AUGUST, 1961.

FREDERICK EDWARDS,
Clerk of the Council.

**Council Offices,
 Esher, Surrey.
 July, 1961.**

MALVERN URBAN DISTRICT COUNCIL.

APPOINTMENT OF ASSISTANT ENGINEER.

APPLICATIONS are invited for the **ABOVE APPOINTMENT** within the **Salary Grade A.P.T. II.** A casual user's allowance for a car up to 10-h.p. will be paid.

Housing accommodation will be provided if the successful applicant is married, and reasonable removal expenses paid.

Applications, stating age, experience, and two names for reference, should be submitted not later than **THURSDAY, 3rd August, 1961.**

J. BULMAN,
Clerk of the Council.

**The Council House,
 Malvern.
 18th July, 1961.**

LEICESTER WATER DEPARTMENT.

BUILDING AND ESTATES SURVEYOR REQUIRED to take charge of maintenance work on houses, offices, waterworks buildings and estates, and to design extensions.

Applicants should be registered Architects, Chartered Surveyors, or should have H.N.C.(Building). Experience in building construction and maintenance by contract, and by labour.

Salary A.P.T. IV/V (£1,140-£1,480). National Conditions of Service apply.

Housing assistance if necessary. Applications to **ENGINEER AND MANAGER, Water Department, Bowring Green Street, Leicester**, by 14th AUGUST, 1961.

APPOINTMENTS VACANT
SIERRA LEONE.

PUBLIC WORKS DEPARTMENT.

EXECUTIVE ENGINEER.

Qualifications: Candidates, preferably under 35 years of age, should have either a University Degree or equivalent, recognised by the Institution of Civil Engineers, and two years' practical experience, or have passed, or be otherwise exempt from, Parts I and II of the Final Examinations of the Institution of Civil Engineers, with at least five years' practical experience.

Duties: General construction and maintenance on roads, bridges, waterworks and buildings. Must be prepared to live up country and travel extensively.

Terms: Contract grant for one tour of 15 to 18 months.

Total Emoluments (including gratuity) in Scale £1,690 to £2,466 p.a.

Education and children's allowances up to £96 p.a.

Free passage, generous leave. Apply **SIERRA LEONE RECRUITING AGENCY, Room 756, Sanctuary Buildings, Great Smith Street, London, S.W.1, quoting BCD112/15/02/D14**, and giving full name and age, and brief details of qualifications and experience.

HUNTINGDONSHIRE COUNTY COUNCIL.

COUNTY SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited for the **APPOINTMENT OF CLERK OF WORKS** in connection with the reconstruction of the Great North Road. Salary £15 15s. per week.

Applicants should have had good experience in the supervision of constructional contracts on road and bridge schemes. The appointment is not established, but there is an extensive programme of roadworks in hand.

Applications, stating age, training, experience, present position and salary, together with copies of two testimonials, should be sent to R. E. C. DORLING, B.Sc.(Eng.), A.M.I.C.E., County Surveyor, Walden House, Huntingdon, by not later than **WEDNESDAY, 9th August, 1961.**

A. C. AYLWARD,
Clerk of the County Council.

**County Buildings,
 Huntingdon.**

COUNTY BOROUGH OF WEST BROMWICH.

PUBLIC WORKS DEPARTMENT.

APPOINTMENT OF ASSISTANT BUILDING MANAGER.

APPLICATIONS are invited for the **ABOVE POST on Grade A.P.T. IV (£1,140-£1,480).**

Applicants should have had experience within a large building organisation, and are capable of deputiesing and generally assisting the Works Manager of the Direct Labour and Maintenance Department. They should also be capable of estimating for large contracts and agreeing and settling final accounts.

Preference will be given to qualified persons of L.I.O.B., A.I.Q.S., and H.N.C. standards.

Applications, together with the names of two referees, should be delivered to the undersigned not later than **MONDAY, 14th August, 1961.**

W. H. GREENWOOD,
Borough Surveyor.

**Town Hall,
 West Bromwich.**

BERAYON URBAN DISTRICT COUNCIL.

SEWERAGE SCHEME.

The above Council invite **APPLICATIONS** for the **POST OF CLERK OF WORKS** for the above Scheme, for the duration of the contract, which is estimated at 15 months, at a salary of £900 per annum.

The Scheme comprises the construction of concrete tunnels and manholes, connections, and an extension of the sea outfall sewer.

Applicants must be experienced in the supervision of sewerage schemes, be capable of setting-out, levelling, and compilation of neat and accurate records.

The successful candidate will carry out his duties under the instruction of the Council's Consulting Engineers, MESSRS. J. OWEN PARRY, LEWIS AND PARTNERS, Ammanford.

The appointment will be subject to one month's notice on either side.

Applications, in candidate's own handwriting, stating age, experience, qualifications, etc., to be in the hands of the undersigned by **WEDNESDAY, 2nd August, 1961.** Envelopes to be marked "Application—Clerk of Works."

(Signed) **J. Gwynne Hughes,**
Clerk of the Council.

AMESBURY RURAL DISTRICT COUNCIL.

WATER SUPPLY AND SEWERAGE CONTRACTS.

APPOINTMENT OF RESIDENT ENGINEER.

APPLICATIONS are invited for the **APPOINTMENT of a RESIDENT ENGINEER** to supervise on behalf of the Council and under the direction of their Consulting Engineers two contracts, one consisting of the laying of some 12 miles of 6in., 4in. and 3in. dia. spun-iron water mains (including river crossings), and the other the construction of a 250,000-gallon reinforced concrete reservoir and the installation of borehole pumping plant and incidental works. The contracts are already in progress.

The salary will be in the range £1,200 to £1,300 per annum, according to experience, and a car allowance in accordance with the scale laid down by the National Joint Council for cars not exceeding 10-h.p. will be paid, or less, on the works. The appointment, subject to satisfactory service, is expected to last for about nine months, but may be terminated by one month's notice on either side.

Although the two contracts at present in progress are expected to be completed in about nine months, there will be other contracts, consisting of the laying of about two miles of 9in. dia. spun-iron mains and a sewerage contract consisting of the laying of approx. 2½ miles of 5in. to 9in. dia. sewers and pumping mains and the construction of a pumping station are expected to commence before the end of 1961 (subject to Ministerial approval). It is intended that the successful applicant shall be offered an opportunity to supervise these contracts also upon terms to be agreed at the time the work starts.

Applicants with experience of similar work should write to the undersigned not later than 14th AUGUST, 1961, giving full particulars of age, qualifications and experience, together with the names of two Engineers to whom reference may be made.

E. NOTTAGE,
Clerk to the Amesbury R.D.C.

**Redworth House,
 Amesbury, Wilts.
 21st July, 1961.**

APPOINTMENTS VACANT

BRITISH TRANSPORT COMMISSION.
QUANTITY SURVEYOR.

BRITISH TRANSPORT DOCKS REQUIRE for King George Dock, Hull, Development Scheme, **QUANTITY SURVEYOR** for measuring up civil engineering contracts, works for interim and final certificates and assisting Resident Engineer generally. Salary up to £1,100 per annum according to qualifications and experience. Applications, giving age, experience and qualifications, to reach **CHIEF DOCKS MANAGER, Dock Office (Dept. CI), Victoria Square, Hull**, not later than **THURSDAY, 3rd August, 1961.**

METROPOLITAN BOROUGH OF POPLAR.

ENGINEERING ASSISTANTS (2) REQUIRED by Poplar Borough Council. Salary Scale £815-£960 per p.a. plus Weighting. Commencing salaries in accordance with qualifications and experience.

The appointments provide ample scope for variety of civil engineering work on roads, sewers, public lighting, street furniture and installations, and drawing office duties.

Apply immediately, on forms obtainable from **BOROUGH ENGINEER AND SURVEYOR, Poplar Town Hall, Bow Road, E.3.**

BOROUGH OF ENFIELD.
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

CLERK OF WORKS.

APPLICATIONS are invited for the **ABOVE TEMPORARY APPOINTMENT** at a salary of £15-£16 per week, according to qualifications and experience. Candidates should have had considerable experience in the supervision of the construction of roads and sewers in connection with estate development, and supervision of road construction work by contract, and should be capable of setting-out work.

Application Forms, returnable by 10th AUGUST, 1961, obtainable from **Borough Engineer and Surveyor, 7 Little Park Gardens, Enfield, Middlesex.**

CYRIL E. C. R. PLATTEN,
Town Clerk.

**Civic Centre,
 Enfield, Middlesex.**

BOROUGH OF EDMONTON.
BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

CHIEF ASSISTANT ENGINEER—N.J.C. SCALE "C."

APPLICATIONS are invited for this **APPOINTMENT** from fully qualified Engineers. Salary N.J.C. Scale "C" (£1,690 x £70/3) £55-£1,825. Casual user car allowance.

The Council are proceeding with an extensive programme of capital works, both by contract and by direct labour. The person appointed will be in charge of the drawing office.

Five-day week. The Council are prepared to grant loans up to 100 per cent. of valuation to facilitate house purchase.

Applications, on forms obtainable from the Town Clerk, Town Hall, Edmonton, must be delivered by the 28th AUGUST, 1961.

H. BACKHOUSE,
Town Clerk.

NORTHFLEET URBAN DISTRICT COUNCIL.

ENGINEERING ASSISTANT.

APPLICATIONS are invited for an **ENGINEERING ASSISTANT** in the Engineer and Surveyor's Department at a salary within Grade A.P.T. III (£960-£1,140 per annum) or Grade A.P.T. IV (£1,140-£1,310 per annum) according to qualifications and experience. Candidates must hold an appropriate qualification and have had municipal experience. The successful candidate will have duties primarily concerned with town development.

Applications, stating age, qualifications, experience and the names of two referees, to be received by the Engineer and Surveyor not later than **MONDAY, 14th August, 1961.** The post is for three years and the successful candidate will be required to pass a medical examination. A five-day week is in operation.

DREWERY F. BUNKALL,
Clerk of the Council.

**Town Hall,
 Northfleet, Kent.**

July, 1961.

SUPERVISOR / GENERAL FOREMAN REQUIRED for medium-size London building contractors. Driver. Write Box V.4536, "The Contract Journal."

TIMEKEEPER / SITE CLERK REQUIRED for civil engineering contracts in Lancashire and Yorkshire. Good opportunities for permanency offered to suitable applicants. Application, giving full particulars, to Box V.4536, "The Contract Journal."

CIVIL ENGINEER REQUIRED—A young honours graduate is required for general survey and site duties on building and civil engineering contracts. Within the company's organisation, there will be opportunities later for design experience. —Write, giving full details of qualifications and experience (if any), to Contracts Director, Box V.4534, "The Contract Journal."

CIVIL ENGINEERS REQUIRED for site work on various civil engineering contracts in Lincolnshire. Applicants should be aged between 22 and 30, and be able to set-out and measure all types of civil engineering work. The appointments offer excellent prospects, together with good working conditions, and a pension fund is in operation.—Applicants should, in the first instance, write, giving details of age, experience and present salary, to CLUGSTON CIVIL ENGINEERING, LTD., St. Vincent House, Normanby Road, Scunthorpe, Lincs.

SERVICE FITTER REQUIRED for repair and maintenance of contractor's plant on sites in and near Harrow. Must have current licence. —Write Box V.4514, "The Contract Journal."

WAGES CLERK REQUIRED by JOHN GILL (CONTRACTORS), LTD., 123 Pall Mall, for head office. Five-day week. L.V.s. Good salary for right man.

APPLICATIONS are invited from **GENERAL FOREMEN** for new contracts and large conversion works in the London area. Interesting and high-class work. The appointments offer excellent opportunities for advancement, with participation in staff bonus and pension schemes.—Please send full details, in confidence, to Box GP5409, A.K. Advertising, 212 Shaftesbury Avenue, London, W.C.2.

CIVIL ENGINEERING CONTRACTS MANAGER. Birmingham area. Must be fully conversant with use of instruments, estimating, running contracts from initial to final. Good salary and permanency. —Write Box V.4445, "The Contract Journal."

APPOINTMENTS VACANT

EXPERIENCED GENERAL FOREMAN/AGENT REQUIRED for medium-sized sewage scheme. Must be experienced in heavy sinking, dewatering, and work in silt.—Apply HENRY J. FIRMAN, LTD., Newark Road, Peterborough.

SENIOR AGENTS and ENGINEERS REQUIRED for North West area.—Reply stating experience, and salary required, to JAMES BENNETT (CONTRACTORS), LTD., Helsby Street, Warrington.

CIVIL ENGINEER, with degree or A.M.I.C.E., age 28-32, REQUIRED in head office of well-established firm of Gunite specialists. Permanent and progressive post for the right man. Must have broad civil engineering background, including site experience in contractors. Varied and unique experience offered in surveying, and preparation of remedial schemes, tendering, planning and organisation of contracts. Excellent prospects for man with ability and drive. Pension scheme.—Apply in confidence, stating age, education, experience, and present salary, to T. WHITLEY MORAN, M.I.C.E., 5 Old Hall Street, Liverpool, 3.

AGENTS and SITE ENGINEERS

REQUIRED for varied civil engineering contracts around London.—Full details to:

RUDDOCK AND MEIGHAN, LTD., Burford House, Harrow View, Wealdstone, Middlesex.

A GENT REQUIRED by sports ground contractors. Must be fully experienced in all aspects of playing field construction and capable of handling labour and materials on site. Salary up to £1,000 per annum. Vehicles provided if necessary. Ring WILMSLOW 4444.

CIVIL ENGINEERS (Senior and Assistants) REQUIRED by London civil engineering contractor for a variety of interesting contracts embracing bridge and marine works in S.W. and N.W. England.—Write brief details of experience to Box 663, L.P.E., 60/62 St. Martins Lane, London, W.C.2.

SENIOR MEASURING SURVEYOR or ENGINEER REQUIRED for the Yorkshire area office in Sheffield. The successful applicant will be based in Sheffield, and will be required to work under the control of the Area Manager and in liaison with Site Agents. He will undertake the preparation of substantial monthly certificates and variations, and carry out negotiations concerned with these. He must, therefore, have a considerable practical experience, as well as several years' current experience in handling and successfully settling final accounts. A superannuation scheme is in operation. Applicants should write in the first instance for an application form, which will be treated in strict confidence.—Apply to THE NORWEST CONSTRUCTION CO., LTD., Ruthven Road, Litherland, Liverpool, 21, marking envelope "For the attention of the Joint Managing Director," and quoting Ref. SMS/1.

PLANNING ENGINEER

(25 35). A.M.I.C.E. or equivalent, with minimum five years' site experience of heavy construction work. Duties involve planning of civil engineering and building contracts at tender and contract stages, design of temporary works, and formwork. Good salary plus pension scheme and canteen offered. Working conditions are first-class, and the office is ultra-modern. Please write, with full details, quoting Ref. CEP/1, to:

Personnel Officer,

M. J. GLEESON (CONTRACTORS), LTD., Haredon House, London Road, North Cheam, Surrey.

CIVIL ENGINEERS REQUIRED for new contracts in Southern England.—Assistant and Junior Engineers experienced in setting-out for road and general civil engineering contracts should apply to the Personnel Officer, THE CEMENTATION CO., LTD., 20 Albert Embankment, London, S.E.1.

THE NORWEST CONSTRUCTION CO., LTD., REQUIRES AN ASSISTANT CIVIL ENGINEER for its area office in Sheffield, and also has vacancies for ENGINEERS on civil engineering contracts in various parts of the country. Applications are invited from young, qualified Engineers who are keen, energetic and ambitious. They should have the ability to undertake accurate setting-out, the preparation of monthly certificates, and be interested in work study and the analysis of site costs. Salaries and allowances will be commensurate with experience and responsibilities. First-class prospects are offered, as it is the company's policy to select future Chief Engineers, Agents and Contracts Managers from site staff. Please write for application form, quoting Ref. ACE1, to The Norwest Construction Co., Ltd., Ruthven Road, Litherland, Liverpool, 21, marking envelope "For the attention of the Joint Managing Director." All applications will be treated as strictly confidential.

SENIOR ESTIMATOR

REQUIRED for civil engineering division, with experience of tendering for major works, motorways, dams and heavy foundations. Permanent position, top salary and pension scheme. Congenial working conditions and office in pleasant modern office.—Please write full details of age, experience and salary required, quoting Ref. CEE/1, to:

Personnel Officer,

M. J. GLEESON (CONTRACTORS), LTD., Haredon House, London Road, North Cheam, Surrey.

ESTABLISHED company of building and civil engineering contractors. **REQUIRES A SENIOR ESTIMATOR.** Applicants should be capable of competitive tendering for all types of contracts up to £1m. in value, and should be able to present completed tenders with calculations, for final discussion with the heads of departments. This is a permanent position, and a superannuation scheme is in operation. Applicants should write in the first instance for an application form, which will be treated in strict confidence.—Apply Box C.13, Lee and Nightingale, Liverpool, 2.

RESIDENT ENGINEER or CLERK OF WORKS REQUIRED. Applications are invited for the appointment of a Resident Engineer or Clerk of Works to supervise alterations and extensions to industrial premises in the centre of Sheffield. Salary offered is £1,500 p.a. The successful candidate must be experienced in reinforced concrete, general building work, and will be required to take up duties on or before 1st October. The anticipated duration of the contract is nine months. Applications for the appointment, together with full references and details of experience, should be submitted as soon as possible to the underlined box number.—Write Box V.4559, "The Contract Journal."

APPOINTMENTS VACANT

CLASSIFIED ADVERTISEMENT RATES:

First four lines or less 12/- and 2/6 each additional line.

Box number 1/- extra.

EXPERIENCED CIVIL ENGINEER REQUIRED in civil engineering contractors' London office. Duties include tendering, planning, and assisting in the control of contracts. Most of the work will be concerned with major civil engineering works abroad, and some travel may well be involved.—Write Box V.4409, "The Contract Journal."

SITE ENGINEER REQUIRED for sewer contract in Essex. Practical experience an advantage.—R. W. HILL AND CO., LTD., Beach Drive, Chelmsford.

CIVIL ENGINEER CONTRACTS AND OFFICE MANAGER REQUIRED by medium-sized contractor in Kent. View to ultimate directorship after trial period if so desired.

Write Box V.4475, "The Contract Journal."

ESTABLISHED Southern civil engineering contractor has a vacancy for a first-class SITE AGENT. Youngish man preferred, but only those with good contractors' experience need apply. The initial appointments offered are directly related to ability. Write giving age, previous experience, and salary, to NICHOLSON CONSTRUCTION CO., Freeland House, Cranleigh, Surrey.

ASSISTANT GENERAL FOREMAN REQUIRED for civil engineering, road construction contracts in the London area. Good conditions offered.—Apply in writing, giving details of experience, to Labour Dept., GILBERT-ASH, LTD., 2 Stanhope Gate, London, W.1.

GENERAL MANAGER—BUILDING

Major firm of building and civil engineering contractors which is separating its two main streams of activity invites applications for the position of GENERAL MANAGER to take charge of its rapidly expanding building division. An aptitude for departmental organisation and administration, coupled with the practical appreciation of work in the field, is obviously essential. The successful applicant will be allowed time to become familiar with the business and key personnel, and thereafter will progressively assume his full executive responsibilities. This is a challenging opportunity with continuing prospects to a man with a good record of successful previous performance. The salary is open and the position will command all the usual benefits.—Applications, all of which will be acknowledged, and which will be held in the strictest confidence, to:

BOX V.4512, "THE CONTRACT JOURNAL."

GENERAL FOREMEN WANTED immediately. Wide experience in all aspects of road and heavy civil engineering construction essential. Start and allowances according to experience, overtime and sickness bonus scheme. Permanent positions envisaged.—Write, with full details, to the Personnel Officer, THE CEMENTATION CO., LTD., 20 Albert Embankment, London, S.E.1.

HIRE AND OFFICE MANAGER REQUIRED for new plant company which is soundly based and offers great possibilities to a man who is determined to progress rapidly in what will be an interesting job. A good starting salary is offered and there will be every opportunity for advancement.

Write Box V.4476, "The Contract Journal."

CIVIL ENGINEERING INSPECTOR REQUIRED to supervise major reinforced concrete construction work on selected power stations.—Applicants should write, stating age, qualifications and experience, to the Administrative Assistant, Group Resident Superintendent's Dept., Hinkley Point, near Bridgwater, Somerset.

EXPERIENCED CLERK OF WORKS REQUIRED for supervision of building of department store and multi-storey car park in Sheffield. Salary up to £1,200 p.a. according to experience and ability.—Apply, stating age and experience, in writing to YORKE, ROSENBERG AND MARSHALL, 2 Hyde Park Place, W.2.

DRAUGHTSMAN

REQUIRED for the design and development section of main contractors' head office organisation. The company are employed in all general forms of contracting, with particular emphasis on housing and multi-storey flats. The applicant is preferred to be between the ages of 25-35, and to be experienced in basic architectural design and detailing. Ideal opportunity for ambitious and industrious young man in a new department of a rapidly expanding organisation. Excellent conditions and prospects offered.—Apply, in confidence, to:

Contracts Director,
G. T. CROUCH, LTD.,
Kingston House,
Stephenson Way, Three Bridges, Crawley, Sussex.

PLANNING ENGINEER REQUIRED for contracts department at head office. Applicants should be familiar with general building and concrete work. Good conditions of employment and assistance with housing is required.—Applications, in confidence, giving age, experience, and present salary, to Contracts Manager, THE LONDON FERRON-CRESCENT CO., LTD., Maxted Close, Hemel Hempstead, Herts.

PLANT HIRE company REQUIRE MANAGER for South London/Surrey area. Must be fully conversant with commercial procedure and, if possible, have contacts in the trade. A knowledge of referees would be an advantage but not essential. Assistance with accommodation if required.—Write Box V.4503, "The Contract Journal."

ASSISTANT SITE ENGINEERS REQUIRED for gas defence and sewerage contracts in East Kent. Accuracy with instruments essential. Measuring and programming experience useful. Good prospects for young men with ambition.—Write, giving age, training, experience and salary required, to J. W. ELLINGHAM LTD., 8 Granada House, Gabriel's Hill, Maidstone.

INTER FOREMAN and FITTERS, fully experienced in the maintenance and overhaul of civil engineering plant. REQUIRED for permanent position at the plant depot of CONCRETE PILING, LTD., Longwick Road, Princes Risborough, Bucks.

APPOINTMENTS VACANT

SALES MANAGER REQUIRED to take over sale of new continental crane being introduced on the British market.—Only persons with proved selling ability need apply to Plant Director, GAZEWAY PLANT HIRE, LTD., Windmill Lane, Thames Ditton, Surrey.

LEADING professional firm, S.W. London, acting for well-known estate development companies. **REQUIRES ASSISTANT ENGINEER** for work on design supervision, etc., of all site engineering works. Applicant must have Inter Civil or Municipal Engineers.—Write, stating age, experience, etc., in Box V.4477, "The Contract Journal."

SALES REPRESENTATIVE. Top-flight Sales Representative with experience of civil engineers' plant, REQUIRED by plant sales and hire organisation operating S.W. of London. Salary £1,000 p.a. plus generous commission on sales and hire company car, and expense allowance.—Write, with details of age, qualifications, past record, and current earnings, to Box V.4502, "The Contract Journal."

JUNIOR ESTIMATOR

REQUIRED in civil engineering department. Site and previous estimating experience in heavy civil engineering works desirable. Minimum 6 months in tendering for wide field of civil engineering projects. Good promotion prospects are bright. Salary according to experience.—Write, with full details, quoting Ref. CEE/2, to:

Personnel Officer,
M. J. GLEESON (CONTRACTORS), LTD., Haredon House, London Road, North Cheam, Surrey.

ASSISTANT to Chief Quantity Surveyor REQUIRED for work at head office in civil engineering department.—Apply FITZPATRICK AND SON (CONTRACTORS), LTD., 455 Old Ford Road, Bow, London, E.3.

PAVING ESTIMATOR REQUIRED by rapidly expanding surfacing department of go-ahead road materials supply and civil engineering contracting group of companies. Permanent, pensionable, progressive post offered to capable, experienced man with a proven record in the industry. He will be in charge of estimating for all types of roadwork from farm roads to motorways, measuring completed work, agreeing quantities, preparing certificates and invoices. Territory covers Lincolnshire, Yorkshire (East and West), Nottinghamshire and Derbyshire. Car provided. Salary appropriate to qualifications and experience. Apply in writing now to the Surfacing Manager, St. Vincent House, Normanby Road, Scunthorpe, Lincs.

CUBITTS—REINFORCED CONCRETE DESIGNERS/DETAILERS REQUIRED for an expansion of structural drawing office. The work will be interesting and involve the use of precast and prestressed concrete. Experience in these techniques will be an asset, but opportunity will be provided for training those who are interested and have some basic knowledge of reinforced concrete. Send full details to Personnel Manager, (M.6850) HOLLAND & HANNEN AND CUBITTS (GREAT BRITAIN), LTD., 1 Queen Anne's Gate, London, S.W.1.

CIVIL ENGINEERING GENERAL FOREMAN

A position with prospects of promotion in a rapidly expanding company is offered to a suitable applicant who is prepared to take responsibility on large contracts. A commensurate salary will be paid, together with participation in bonus and pension schemes.—Write, with details, to:

BOX A.B.559, "THE CONTRACT JOURNAL."

LADY TRACER REQUIRED by professional firm located in Westminster. Previous experience of civil engineering work, advantageous. Good standard of learning essential. Interesting and varied work. Post not temporary, and staff pensions might apply, according to age. Please indicate experience and previous posts.—Write Box V.4556, "The Contract Journal."

WORKS MANAGER REQUIRED for civil engineering contractor in Bedford. Remuneration £1,500 plus pension and bonus scheme. Excellent opportunities with a rapidly growing organisation.—Write Box V.4553, "The Contract Journal."

ENGINEER/AGENT for civil engineering contract in Home Counties. Progressive post in rapidly expanding company for a man experienced in deep excavation.—Write Box V.4554, "The Contract Journal."

SITE ENGINEER REQUIRED for large civil engineering work with expanding company. Excellent career and experience, with commensurate salary and pension scheme.—Write Box V.4555, "The Contract Journal."

THE LYON GROUP

REQUIRE AGENTS and GENERAL FOREMEN capable of taking complete charge of large industrial, commercial and domestic developments. Includes multi-storey structures in reinforced concrete. These positions will be well suited and offer great opportunities of advancement with an expanding group for determined and capable men.—Apply:

RONALD LYON CONSTRUCTION, LTD.,
Auckland House,
New Zealand Avenue, Walton-on-Thames, Surrey.

WANTED, QUARRY MANAGER for limestone quarry. Must be experienced in all aspects of coated and dry stone production, working on a mechanised basis. Accommodation and car after proven trial.—Write Box V.4552, "The Contract Journal."

A GENT REQUIRED for major civil engineering contract, Camberley area. Must be cost-conscious and able to do high-quality work. A good salary and bonus will be paid.—Write Box V.4551, "The Contract Journal."

QUANTITY SURVEYOR REQUIRED for civil engineering company. Salary commensurate with experience. Please send full details of experience, together with references.—JAMES BENNETT (CONTRACTORS), LTD., Helsby Street, Warrington.

CIVIL ENGINEER. Junior Civil Engineer REQUIRED by major firm of civil engineering contractors, for setting-out and other site duties.—Write age and details of experience, which will be treated in confidence, to Box No. 634, Keith and Co., 137 Princes Street, Edinburgh.

APPOINTMENTS VACANT

CONTRACT PLANNING ENGINEER REQUIRED to programme and co-ordinate the design, manufacture and construction of precast and in-situ reinforced concrete structures. Applicants should have had previous experience of contract planning in the building and/or engineering industry, and should be aged 25-40. The post permanent, pensionable, and assistance with housing can be given.—Details of experience, etc., should be sent to the Contracts Manager, THE LONDON FERRO-CONCRETE CO. LTD., Maxted Close, Hemel Hempstead, Herts.

CHIEF SURVEYOR. — Chief Quantity Surveyor required by building and civil engineering contractors in the north west with substantial and expanding turnover. Candidates must be fully qualified, but managerial ability and experience are also essential; as the successful applicant will be required to take immediate charge of all surveying activities in the company, with prospects of further responsibility in the future. An attractive and progressive salary commensurate with these responsibilities together with pension and other benefits, including the use of a car, will be provided.—Please write, in confidence, with full personal details, to the Secretary, Box V.4591, "The Contract Journal."

SENIOR SURVEYOR

REQUIRED for major contract in Southampton area. Ability to deal with all aspects of final account required.—Please write, giving details of experience, salary required, etc., to:

Chief Quantity Surveyor,
WILSON LOVATT AND SONS, LTD.,
16 Grosvenor Crescent, London, S.W.1.

SETTING OUT ENGINEERS. — Vacancies for ENGINEERS on large and medium building contracts who can set out accurately. These appointments can lead progressively to higher positions in the firm. Please state age, training and experience, to: J. GERRARD AND SONS, LTD., Swinton, Lancs.

SALESMAN CONTRACTORS' PLANT REQUIRED for an established distributor holding sole agencies for reputable manufacturers, including a range of excavators, loading shovels, compressors and concrete mixers. A suitable candidate should be in the age group 25 to 45, really enjoy selling, and be looking for a worthwhile, well-rewarded appointment in return for solid effort. A sole territory will be allocated, and established contacts needed over PAYMENT is by basic salary, commission, a car is provided, and a pension and life assurance scheme operated. Brief written application should be sent, in complete confidence, to: L. GRAHAM BROWNE ADVERTISING, LTD., Sales Selection Division, 15 Frederick Road, Birmingham, 15. Present staff know about this advertisement.

GENERAL MANAGER for Australias REQUIRED for British civil engineering and building contractors of world repute. Technical qualification and managerial experience essential.—Write in first instance to Managing Director, Box V.4576, "The Contract Journal."

GENERAL MANAGER for New Zealand REQUIRED for British civil engineering and building contractors of world repute. Technical qualification and managerial experience essential.—Write in first instance to Managing Director, Box V.4577, "The Contract Journal."

GENERAL FOREMAN

WANTED for prestressed concrete road bridge. Wide experience in all aspects of heavy civil engineering construction, particularly high-quality formwork and concrete. Salary and allowances according to experience. Generous bonus scheme in operation.—Please write, with details of experience, to:

The Personnel Officer,
CEMENTATION CO., LTD.,
20 Albert Embankment, London, S.E.1.

CIVIL ENGINEERING STAFF REQUIRED for an interesting development construction and building work in the client handling department of an integrated iron and steelworks. Excellent working conditions and opportunities available: (a) SENIOR DESIGNER, with experience in reinforced concrete foundation design; (b) DRAUGHTSMAN, with experience in one or more of the following: reinforced concrete design, foundations, building construction, structural steelwork, road engineering; (c) SURVEYING ASSISTANT, experienced in building and civil engineering quantities, measurement, records, etc. Applications, stating age, qualifications and experience, should be sent to the Chief Engineer, GUEST KEEN IRON AND STEEL WORKS (Branch of G.K.N. Steel Co., Ltd.), East Moors, Cardiff.

EXPERIENCED, energetic and presentable REPRESENTATIVE REQUIRED to sell ready mixed concrete. Should be single and/or mobile. Able to move around for definite periods within the counties of Sussex, Surrey and Hampshire. Car provided. Applicants should be aged between 25 and 35, and only those possessing the above qualifications need apply.—Applications to General Manager, JOHN HEAVER, LTD., Shropshire Road, Chichester, Sussex.

JUNIOR ESTIMATOR for head office. Aged 25-30. Must be capable of taking off and preparing and pricing own bills of quantities for all types of civil engineering work; some site experience essential. Applications, stating age, experience, and salary required, to SYDNEY GREEN AND SONS, LTD., Highlands Farm, Henley-on-Thames.

CIVIL ENGINEERS

EDMUND NUTTALL, SONS AND CO. (LONDON), LTD., have vacancies for SENIOR and JUNIOR ENGINEERS for work on the Clyde Dock project, Greenock. Applications should be addressed to:

EDMUND NUTTALL, SONS AND CO. (LONDON), LTD.,
22 Grosvenor Gardens, London, S.W.1.

MANAGER WANTED for hire department of well-known London plant company. Fully experienced persons only need apply.—Write Box V.4574, "The Contract Journal."

SURFACING department of well-known firm of public works contractors REQUIRE ESTIMATOR for their London office, experienced in pricing the laying out by machine and hand of tarmac, macadam and asphalt surfacing. The position is permanent and applicants should state their age, experience, and salary required. All replies will be treated in strict confidence.—Write Box V.4575, "The Contract Journal."

APPOINTMENTS VACANT

PERSONAL ASSISTANT to General Manager of sportsground contractors REQUIRED. Some experience in sportsground construction essential. Salary £750-£1,000 per annum, dependent on qualifications and experience. Vehicle provided if required. Write Box V.4585, "The Contract Journal."

AN ENGINEER is REQUIRED by the Guma Valley Water Company, Freetown, Sierra Leone. Applicants must be A.M.I.C.E. and preferably A.M.I.W.E. Practical experience in water supply is essential. Salary in range £1,800-£2,500 p.a. with gratuity of 15% or membership of superannuation scheme. Tours of 15-18 months; liberal leave on full pay on completion of tour. Free furnished accommodation with a reasonable amount of electric light.—Apply, in writing, quoting Ref. No. V.4501, Personnel Office, COLONIAL DEVELOPMENT CORPORATION, 33 Hill Street, London, W.1, giving full personal history.

PROGRESSIVE BUILDING AND MANUFACTURING COMPANY

REQUIRE experienced ASSISTANT for busy buying office. Ultimately to be situated at Epsom. Applicants must have wide knowledge of precast concrete industry and have ability to assist in other responsibilities. Progressive salary and bonus.—Apply by letter, giving details of previous experience:

ABCD (RAYNES PARK), LTD.,
34-35 Alpha Road, Surbiton, Surrey.

SALES REPRESENTATIVES REQUIRED to cover territories: Notts, Derby, West Riding, Staffs, Cheshire, Manchester areas. Must be conversant with tarmacading and dry limestone trade.—Write JOHN HINCHCLIFFE AND SON, LTD., P.O. Box No. 3, South Elmall, near Pontefract.

PLANT AND TRANSPORT ENGINEER/MANAGER REQUIRED to take charge of maintenance, repair, etc., and operation of medium-sized South Wales contractors' plant and transport. Plant includes Ruston excavators, cranes, Caterpillar tractors, Bedford lorries, etc. Good salary. Pension scheme. Age 35-45 preferable.—Please write, giving full particulars of experience and present salary, to Box V.4550, "The Contract Journal."

CIVIL ENGINEER (Soil Mechanics)—FOUNDATION ENGINEERING, LTD., a company in the Richard Costain Group, have a vacancy for a Civil Engineer who has specialised in soil mechanics work, to take charge of their laboratory in London. Candidates must be fully experienced in soils testing and must be capable of analysing the results and compiling engineering reports. Preference will be given to someone who is free to travel overseas at a later stage.—Please apply to Personnel Manager, Richard Costain, Ltd., 111 Westminster Bridge Road, London, S.E.1.

BUILDING MANAGER

REQUIRED by an old-established firm of civil engineering contractors to the chief of their building section. This position offers great possibilities to a man who is determined to progress. Applicants should have had wide experience in all forms of building, but with particular reference to estate development, and be capable of building up his own organisation and labour force. An initial salary up to £2,000 per annum is envisaged, plus the usual facilities, and there will be every opportunity for advancement. All applications will be treated in the strictest confidence. Reply, giving full details, to:

BOX V.4511, "THE CONTRACT JOURNAL."

SENIOR and JUNIOR ENGINEERS REQUIRED for civil engineering site in North West area.—Applications to HARBOUR AND GENERAL WORKS, LTD., White Lund, Morecambe.

GENERAL FOREMAN urgently REQUIRED for airfield construction, Essex. Essential to have previous experience on muckshifting, drainage, and paving work.—Apply, quoting Ref. GF/MEN, to Director, HENRY BOOT AND SONS (CIVIL ENGINEERING), LTD., Banner Cross Hall, Sheffield, 11.

FIRST-CLASS AGENT urgently REQUIRED, Essex area. Previous experience airfield construction, earthmoving, drainage and, possibly, soil stabilisation techniques. Permanent post: superannuation and profit-sharing scheme in operation.—Apply, quoting Ref. A/MEN, Director, HENRY BOOT AND SONS (CIVIL ENGINEERING), LTD., Banner Cross Hall, 11.

GENERAL FOREMEN, experienced in all classes of heavy civil engineering construction, REQUIRED for contracts in the London area. Good pay and conditions, with excellent prospects of continued employment in this area.—Apply in writing to Contracts Manager, WILLMENT BROS., LTD., 462 London Road, Islington, Middlesex.

CIVIL ENGINEERING AGENTS, experienced in heavy civil engineering construction, REQUIRED for contracts, London area. Attractive terms, with excellent prospects of continued employment in this area. Apply in writing, stating age and experience, to Contracts Manager, WILLMENT BROS., LTD., 462 London Road, Islington, Middlesex.

PRECAST PRESTRESSED AND REINFORCED CONCRETE

DOW-MAC (PRODUCTS), LTD., REQUIRE DESIGN OFFICE STAFF, in varying seniority up to £1,500 per annum salary scale. A wide variety of work gives opportunity for suitably qualified men to learn or develop the use of these materials. Situated in country district, with free transport from nearest towns.—Applications invited, in writing, to:

Technical Director,
DOW-MAC (PRODUCTS), LTD.,
Tallington, Stamford, Lincs.

ENGINEERING AGENT REQUIRED by UNIT CONSTRUCTION CO., LTD., for a multi-storey concrete building in Bristol. Experience in constructing reinforced concrete frames is necessary. Good pay and conditions, and pension scheme after probationary period.—Apply Regional Manager, Faggs Road, Feltham, in writing; or telephone: Feltham 5751.

CIVIL ENGINEER. — Experienced Civil Engineer REQUIRED to supervise road and bridge works on Fonthill Road, Bridge, Southern Approach Road. Applicants, who should be experienced, are invited to send full details of age, experience and qualifications, in confidence, to: A. M. CARMICHAEL, LTD., 9 Ainslie Place, Edinburgh, 3.

APPOINTMENTS VACANT

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J. NOEL MARTIN,

Town Clerk.

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WEDNESFIELD URBAN DISTRICT COUNCIL

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J. HENWOOD-JONES,

Clerk of the Council.

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The Council do not bind themselves to accept the highest or any tender.

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Elyhurst,
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19th July, 1961.

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INDEX TO ADVERTISERS

Page	Page
A	
A.B.C.D. (Raynes Park), Ltd.	402
Acrow (Engineers), Ltd.	xii
Acworth Plant Hire, Ltd.	402
A.E.C., Ltd.	viii, ix, 419, 518
Allam, E. P., & Co. Ltd.	430
Allam Machinery Hire, Ltd.	394
Allen, John, Lord (Oxford), Ltd.	406
Anderson-Grice, Ltd.	521
Armstrong-Whitworth (Metal Industries), Ltd.	viiiia
Arup & Arup, Ltd.	433
Ash, R., & Son, Ltd.	400
Atlas Copco (Great Britain), Ltd.	505
Austin Motor Co., Ltd.	427
Automotive Products Co., Ltd.	xb
Aveling-Barford, Ltd.	viii
B	
Babcock & Wilcox, Ltd.	507
Bamford, J. C. (Excavators), Ltd.	ia
Barking Developments Co., Ltd.	400
Beck & Politzer (Transportation), Ltd.	416
Benford, Ltd.	395
Bigwood Bros. (Birmingham), Ltd.	428
Blackwood Hodge	
Blair, Knox, Ltd.	Cover i
Bowen, James, & Sons, Ltd.	xiv
Braden, Nash Tzvack, Ltd.	416
Branch, Jack, (London)	398
Bray Construction Equipment, Ltd.	Cover ii, iii
Bristol Plant Hire, Ltd.	414
British Cellophane, Ltd.	426
British General Insurance Co., Ltd.	396
British Oil & Turpentine Corporation	517
Brockmoor Foundry Co., Ltd.	504
Brown, David, Construction Equipment, Ltd.	438
Brown & Tawse Plant, Ltd.	400
Butters Bros. & Co., Ltd.	523
C	
Cable Covers, Ltd.	413
Campbell Gray, Ltd.	430
Camelot Tractor Co., Ltd.	Cover
Cementation Co., Ltd.	xv
C.E.T. (Equipment), Ltd.	520
C.E.T. (Plant), Ltd.	420
Chadburns (Liverpool), Ltd.	428
Chain Link Fencing, Ltd.	520
Chempain Plant, Ltd.	422
Cohen George, Sons & Co., Ltd.	394
Cole, E. R., Ltd.	426
Conlin, B. E.	428
Construction Machinery, Ltd.	434
Contractors & Industrial Equipment, Ltd.	398
Contractor's Services, Ltd.	Cover vii
Counti Commercial Cars (Sales), Ltd.	500
Cox, H., & Sons (Plant Hire), Ltd.	424
Cripps, R., & Co., Ltd.	lia, liia
Croggan & Co., Ltd.	489
D	
Dawson, W. A., Ltd.	418
Dial-Mec, Ltd.	421
Diving Specialists, Ltd.	398
Duke & Occluded, Ltd.	522
Dunlop Rubber Co., Ltd.	xviii, xix
E	
Eddison Plant, Ltd.	xvii
Edmunds, G. M., Ltd.	418
F	
Fodens, Ltd.	xib
Foster, Arthur, (Constructional Engineers), Ltd.	402
G	
General Roadwork, Ltd.	490
Gibsons, F. & Co. (Newcastle), Ltd.	524
G.I. Plant, Ltd.	506
Greenham Equipments, Ltd.	420
Greenham Group	42b
H	
Hardun & Sons, Ltd.	33
Holman Bros., Ltd.	vi
I	
International Harvester Co. of Great Britain, Ltd.	x
International Translators, Ltd.	398
J	
Johnson, C. H., (Machinery), Ltd.	404
Jury Holloware, Ltd.	518
K	
Kerner Greenwood & Co., Ltd.	524
Key Engineering Co., Ltd.	viii, ix
Kingston Plant Hire, Ltd.	xiii
Kwikform, Ltd.	521
L	
Lafarge Aluminous Cement Co., Ltd.	Cover v
LeTourneau-Weetinghouse Co.	431
Liner Concrete Machinery Co., Ltd.	424
Lister, R. A., & Co., Ltd.	414, 424
Long, A. & Co., Ltd.	454
Lorry-Mounted Crane Association, Ltd.	417
	519
M	
Mackay Industrial Equipment, Ltd.	ic, iiic, iiiic, ivc
Marshalls, Sons & Co., Ltd.	xii
Mercantile Credit Co., Ltd.	423
Morgan (Plant, Britain), Ltd.	xviii
Millars' Machinery Co., Ltd.	434
Mobile Haulage, Ltd.	436
Modular Concrete Co., Ltd.	422
Moore's Plant, Ltd.	403
N	
Neagron Construction, Ltd.	400
P	
Palmer, G. J., & Sons	
Parker, Frederick, Ltd.	393
Pearson Machine Tool Co., Ltd.	504
Peel, H., Ltd.	430
Pegson, Ltd.	440
Pemberton, Ltd.	491
Pike, George, Ltd.	394
Planet Plant Hire	
Plywood Manufacturers' Association of British Columbia	435
Portasilo, Ltd.	Cover ix
R	
Ransomes & Rapier, Ltd.	488
Rebvestos-Belastex, Ltd.	222
Raven, W. (Engineers), Ltd.	224
Road Machines (Drayton), Ltd.	452
Road Rollers, Ltd.	452
Roads & Runways (Plant Hire), Ltd.	398, 402
Ruston-Bucyrus, Ltd.	
S	
Saunders, A. J., (Tractors), Ltd.	394
Sauvile, H. A.	
Saville (Tractors), Ltd.	vii
Scottish Land Development Corporation	418
Sharpe Jones & Co., Ltd.	487
Shawnee-Poole, Ltd.	401, 415, 429
Sheehy, Mark, Ltd.	520
Simon, Richard, & Sons	
Sparrowe & Sons, Ltd.	402
Standall Engineering, Ltd.	396
Steel Fabricators (Cardiff), Ltd.	xa, xia
Steel Engineering Products, Ltd.	xiva, xvii
Stothert & Pitt, Ltd.	437
Sykes, Henry, Ltd.	
Sykes (Plant Sales), Ltd.	Cover vi
	522
T	
Thorn, J., & Sons, Ltd.	439
Thor Tools, Ltd.	xi
Thwaites Engineering Co., Ltd.	
U	
Universal Divers, Ltd.	396
V	
Val de Travers Asphalté, Ltd.	491
Vass, L. W., Ltd.	398
Vauxhall Motors, Ltd.	425
W	
Ward, Thos. W., Ltd.	397
Weatherill, F. E., Ltd.	va
Wednesbury Tube Co., Ltd.	508
White, R., & Sons (Enginers), Ltd.	
Wiflock Bros., Ltd.	418
Winstone, Ltd.	418
Wright V. (Leeds), Ltd.	506

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Tender documents and basic drawings may be obtained from the County Surveyor, Dents Road, Bedford, on depositing the sum of £2, which will be refunded on receipt of a bona-fide Tender or return of documents before closing date. Detailed drawings may be inspected by appointment.

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The Council does not bind itself to accept the lowest or any Tender.

GEORGE BREWIS,
Clerk of the County Council.

Shire Hall,
Bedford.
21st July, 1961.

SOUTHWICK URBAN DISTRICT COUNCIL. COMPREHENSIVE DEVELOPMENT AREA, NO. 9. NEW SHOPPING CENTRE.

TENDERS are invited from experienced road and paving contractors for the FOLLOWING WORKS:

Surfacing of existing Builders' Roads with Tar-macadam and Bituminous Surfacing, Channel Kerbing, Slab Driveways, Construction of Concrete Parking Lay-bys, and Car Parks, Street Lighting, and ancillary works.

Specification and Bills of Quantities may be obtained from the Engineer and Surveyor, 215 Albion Street, Southwick, on deposit of £1.50, or deposit of £1.50 and Plans may be inspected by appointment.

Tenders, in the envelope provided, are to be delivered to the undersigned not later than 5 p.m. on WEDNESDAY, 30th August, 1961.

The Council will not be bound to accept the lowest or any Tender.

A. R. SHOTT,
Clerk of the Council.

Town Hall,
Southwick,
Sussex.
21st July, 1961.

DROYLSDEN URBAN DISTRICT COUNCIL. PRIVATE STREET WORKS.

REPTON AVENUE; GODFREY AVENUE.

TENDERS are invited for the MAKING-UP of the ABOVE-MENTIONED STREETS.

Plans and Conditions of Contract may be seen at the Office of, and copies of the Specification, Bill of Quantities and Form of Tender may be obtained from H. H. ELLERY, M.I.M.E., Engineer and Surveyor, Council Offices, Droylsden.

Tenders, in plain sealed envelopes endorsed "Private Street Works," to be delivered to the undersigned not later than Noon on SATURDAY, 12th August, 1961.

The Council does not bind itself to accept the lowest or any Tender, and reserves the right to accept a Tender for the whole or any part of the works.

G. S. HEPTON,
Clerk of the Council.

Council Offices,
Droylsden,
Lancs.

CEMAES RURAL DISTRICT COUNCIL.

BRYNBERIAN AUGMENTATION WATER SCHEME.

TENDERS on a Fixed-price Basis, are invited from experienced contractors for SUPPLYING and LAVING approx. 2,400yd. of 7in. dia. SPUN-IRON PIPES and 300yd. of 6in. dia. ASBESTOS-CEMENT PIPES and fittings, the Construction of Steel Internal Water Treatment Plant and Pumping Station, River Weir Dams, and all necessary Fencing and Roadworks.

Copies of the Form of Tender, General Conditions, and Specifications and Bills of Quantities may be obtained from the Offices of the Council or from the Consulting Engineers, MESSRS. J. OWEN PARRY, Partnership, 10, Park Crescent, Chancery Lane, London, upon deposit of £5 (by cheque made payable to the Council) which will be refunded in the case of a bona-fide Tender not subsequently withdrawn. Drawings may be inspected at the Offices of the Council or of the Consulting Engineers during normal office hours.

No Tender will be accepted except in a plain and sealed envelope which shall bear on the outside the words "Tender for Brynberian Augmentation Scheme," but shall not bear any name or mark indicating the identity of the tenderer.

The Tenderer may read me, the undersigned, not later than Noon on FRIDAY, 18th August, 1961.

The Council does not bind itself to accept the lowest or any Tender.

D. S. SMITH,
Clerk of the Council.

R.D.C. Offices,
Grosvenor Hill,
Cardigan.
22nd July, 1961.

EAST LOTHIAN WATER BOARD.

TENDERS are invited for the LAYING and JOINTING of a 6in. dia. STEEL PIPELINE for a distance of approx. 5,800 linear yd., and a 6in. dia. ASBESTOS-CEMENT PIPELINE for a distance of approx. 3,330 linear yd.

The Drawings may be seen, and the Specification and Form of Tender obtained, on application to H. HILL AND SONS (MANCHESTER), Civil Engineers, 21 Grosvenor Street, Manchester, with a deposit of £5 5s., returnable on receipt of a bona-fide Tender. Copies of the Drawings available on payment of £1 1s. which will not be returned.

Documents and Drawings may also be inspected at the Offices of the Board in Haddington, by previous appointment.

Sealed Tenders, endorsed "Contract ZB," to be delivered to the CLERK TO THE BOARD, County Buildings, Haddington, not later than 1st SEPTEMBER, 1961.

The Board do not bind themselves to accept the lowest or any Tender.

THOS. GIBB,
Clerk to the Board.

21st July, 1961.

BOROUGH OF HIGH WYCOMBE.

CONTRACT NO. 8/1.

HUGHENDEN STREAM DIVERSION.

TENDERS are invited for the CONSTRUCTION of the ABOVE WORKS.

The work comprises approx. 180yd. of 24in. dia. Concrete Pipe with Double Seal Manholes in open cut, in-situ Concrete Manholes, Inlet and Outlet, Trunk Road Crossing, and ancillary works.

Specification, Bills of Quantities and Form of Tender may be obtained from the Borough Engineer's Department, Municipal Offices, High Wycombe, on receipt of a deposit of £2, which will be returned on receipt of a bona-fide Tender.

Drawings will be sent to contractors for use in submitting a Tender, and inquiries may be made at the above address between 9 a.m. and 5 p.m., Monday to Friday.

Tenders must be returned, in the envelope provided, by Noon on MONDAY, 21st August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. A. PARKINSON, M.A., A.M.I.C.E.,
Borough Engineer and Surveyor.

BOROUGH OF HIGH WYCOMBE.

CONNECTION OF PROPERTIES TO FOUL SEWER—HAMMERSLEY LANE.

TENDERS are invited for the CONNECTION of SEVEN PROPERTIES to MAIN SEWER from existing Cesspools.

The work comprises the Laying in short lengths of approx. 75yd. of 4in. dia. Salt Glazed Stoneware Pipe and Plain Jointed Pipe.

Specification, Bill of Quantities and Form of Tender may be obtained from the Borough Engineer's Department, Municipal Offices, High Wycombe, and inquiries may be made, and drawings inspected, between 9 a.m.-5 p.m., Monday to Friday.

Tenders, in plain sealed envelope bearing no mark to indicate the sender, and endorsed "Sewer Connections—Hammersley Lane," by Noon on MONDAY, 21st August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. A. PARKINSON, M.A., A.M.I.C.E.,
Borough Engineer and Surveyor.

CITY AND ROYAL BURGH OF PERTH.

WATER SUPPLY.

CONTRACT NO. 1—24IN. DIA. PUMPING MAIN.

THE LORD PROVOST, MAGISTRATES and COUNILLORS of the City and Royal Burgh of Perth are preparing to receive TENDERS for EXCAVATING and REFILLING TRENCHES, DRAINS, DITCHES, LAYING and JOINING about 3,485yd. of 24in. and 770yd. of 18in. dia. SPUN-IRON PIPES with Tyton Joints, with relative and incidental works.

Plans may be seen at the Office of the City Water Engineer and Manager, Marshall Place, Perth, or at the Office of the Consulting Engineers, MESSRS. CROUCH AND HOGG, 18 Woodside Crescent, Glasgow, C.3, from the latter of whom copies of the Specification, Schedule of Quantities and Tender may be obtained after 24th July, 1961, on written application accompanied by a deposit cheque of £10, returnable on receipt of a bona-fide Tender.

A representative of the Engineers will meet intending offerers at Milnton Toll on the Dunkeld Road, on Tuesday, 1st August, 1961, at 2.15 p.m.

Sealed Tenders marked "Water Supply—Contract No. 1," are to be lodged with the undersigned not later than 5 p.m. on TUESDAY, 29th August, 1961.

A. H. MARTIN,
Town Clerk.

City Chambers,
Perth.
20th July, 1961.

URBAN DISTRICT COUNCIL OF FAULSWORTH.

ROBERT SIDLOW PUBLIC LIBRARY.

TENDERS are invited, on a Fixed-price Basis, from suitable experienced contractors, for the ERECTION of the ABOVE BUILDING, which has a floor area of 4,350 sq. ft. and is semi-prefabricated in construction, with brick gables and wing walls, lightweight roof and precast concrete flooring. The Contract, which includes Drainage, Garden Works and Dwarf Walling, is to be completed by 30th April, 1962.

Tender documents may be obtained from the undersigned on payment of £5 5s. deposit (returnable after receipt of a bona-fide Tender), and the Plans may be inspected during normal office hours at the Engineer and Surveyor's Office, Town Hall, Faulsworth.

Tenders to be received in plain sealed envelopes not later than 12 o'clock Noon on WEDNESDAY, 23rd August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

JOHN WALTON,
Clerk of the Council.

Town Hall,
Oldham Road,
Faulsworth,
Near Manchester.

ALDRED RURAL DISTRICT COUNCIL.

BYLCHAU AND DISTRICT WATER SUPPLY SCHEME.

CONTRACT REF.: 2A7—WATER MAINS.

TENDERS are invited for the EXCAVATION for SUPPLYING, LAYING and JOINING of approx. 3,000yd. of 4in. dia. ASBESTOS-CEMENT PIPES together with VALES, SPECIALS and incidental works.

Copies of the General Conditions of Contract, Specification, Bill of Quantities and Form of Tender may be obtained from the Council's Consulting Engineers, MESSRS. SANDFORD FAWCETT AND PARTNERS, 53 Victoria Street, London, S.W.1, on payment of a deposit of Five Guineas, which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn and the return of documents.

The Drawings may be examined at the Office of the Engineer and Surveyor, 34, Water Street, Rhyl, and at the Office of the Council's Consulting Engineers.

Sealed Tenders, in plain covers, endorsed "Tender for Contract Ref. 2A7," should reach the undersigned not later than First Post on MONDAY, 4th September, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

(Signed) W. BROOKES PARRY,
Clerk of the Council.

34 Water Street,
Rhyl.

20th July, 1961.

DEVON COUNTY COUNCIL.

RED CROSS HILL, KENNFORD, TRUNK ROAD A.38, PROPOSED FENCING.

TENDERS are invited for the PROVISION and ERECTION of the FOLLOWING:

(a) 1,884 lin. yd. of Coloured Concrete Post, Reinforced Chain Link and Dropper Strained Wire Fencing.

(b) 310 lin. yd. of Continuous Bar Mild Steel Fencing at Red Cross Hill, Kennford, about 5 miles south of Exeter, on A.38.

Full details may be obtained from the County Surveyor, "County" Town Hall, Exeter, and Tenders must be sent to the CLERK OF THE COUNCIL, The Castle, Exeter, not later than 10 a.m., TUESDAY, 15th August, 1961.

ANTRIM COUNTY COUNCIL.

TENDERS are invited for the SUPPLY of the FOLLOWING:

(1) One Mechanical Diesel Road Sweeper with Water Spray Equipment, independent Vertical Scavenger Brush, to be fitted with Automatic Collecting and Tipping Receptacle of not less than 3 cu. yd. capacity, all hydraulically controlled. Price to include for one complete set of brushes, and vehicle painted and lettered to the Council's requirements.

(2) Two "C" Type Boilers, 160-gallon capacity, mounted on solid rubber wheels and oil-fired, including Hoisting Tackle, Winch, Wire Rope and Barrels of Gas.

Tenders to be lodged with the undersigned not later than TUESDAY, 15th August, 1961. The lowest or any Tender not necessarily accepted.

W. S. HENDERSON,
Secretary.
County Courthouse.
Belfast.
20th July, 1961.

COUNTY BOROUGH OF BURY.

COLD ASPHALT SURFACING.

TENDERS invited for SUPPLY, DELIVERY and MECHANICAL LAYING of approx. 5,625 sq. yd. of SINGLE COURSE FINE COAL ASPHALT.

Documents from Borough Engineer, Town Hall, Bury. Tenders, enclosed in plain sealed envelope, endorsed "Cold Asphalt," must reach me not later than 14th AUGUST, 1961.

EDWARD S. SMITH,
Town Clerk.

BOROUGH OF ILFORD.

RECONSTRUCTION OF PARTS OF LEY STREET AND HORNS ROAD.

THE CORPORATION invites TENDERS for the RECONSTRUCTION of approx. 4,000 sq. yd. of existing CARRIAGeway in 9in. Reinforced Concrete on a 6in. Hardcore Sub-base, the Taking-up and Re-laying of approx. 850 lin. yd. of Kerbing, and approx. 2,500 sq. yd. of Paving, together with Drainage and other ancillary works.

Conditions of Contract and Drawings may be inspected upon application to the Borough Engineer, Town Hall, Ilford, from whom the Special Conditions, Specification, Bills of Quantities and Form of Tender may be obtained on payment of a deposit of Two Guineas which is returnable on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelope bearing no name or mark indicating the tenderer, and endorsed "Tender for the Reconstruction of Parts of Ley Street and Horns Road," must be delivered to the TOWN CLERK, Town Hall, Ilford, not later than 4 p.m. on the 22nd AUGUST, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

CITY OF CARLISLE.

NEWLAITHES JUNIOR SCHOOL, MORTON, CARLISLE.

FIXED-PRICE TENDERS are invited for the ERECTION of the ABOVE, which is a new eight-classroom junior school in traditional construction, area approx. 14,050 sq. ft.

Architects, Johnston and Wright, 13 Castle Street, Carlisle.

Tender documents will be available from the County Surveyor, J. TELFORD HART, F.R.I.C.S., Natproban Chambers, Victoria Vladut, Carlisle, on 1st AUGUST, 1961.

Closing date for receipt of Tenders, 22nd AUGUST, 1961.

H. D. A. ROBERTSON,
Town Clerk.

CHISLEHURST AND SIDCUP URBAN DISTRICT COUNCIL.

CAR PARK—BURLINGTON PARADE, HIGH STREET CHISLEHURST.

Names and addresses of contractors tendering for TENDERING for 5,000 sq. yd. of TARMACADAM SURFACING on HARDCORE, KERBING, 130 lin. yd. of 24in. SURFACE WATER SEWER, MANHOLES and appurtenant works to Surveyor, Manor House, Sidcup, with Two Guineas deposit, by 11th AUGUST, 1961.

T. W. FAGG,
Clerk of the Council.

WELWYN GARDEN CITY URBAN DISTRICT COUNCIL.

TOWN CENTRE LIGHTING.

ERECTION AND PAINTING OF STEEL COLUMNS.

TENDERS are invited for the ERECTION and PAINTING of 82 STEEL LAMP COLUMNS and Lanterns, including Taking-down the existing Lamp Columns. Contractors may tender for either the Erection or Painting of the Columns, or for both.

Copies of the Specification, Bills of Quantities and Form of Tender may be obtained from the Drawing Office, General Conditions of Contract may be inspected at the Office of the Engineer and Surveyor, Council Offices, Welwyn Garden City, Herts.

Tenders to be delivered to the undersigned, in plain sealed envelopes endorsed "Town Centre Lighting," not later than MONDAY, 26th August, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

L. J. SLOCUMBE,
Clerk of the Council.
Council Offices,
Welwyn Garden City,
Herts.
21st July, 1961.

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AIR-COOLED DIESELS ... it pays!

Proven power units
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THE
CONTRACT JOURNAL
INCORPORATING
THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

THE CONTRACT JOURNAL

incorporating
THE BRITISH CONSTRUCTIONAL ENGINEER
and
THE CONTRACTOR
Established 1879

No. 4,283 Vol. CLXXXII July 27, 1961

Editor:

LAWRENCE McCARTHY

PRINCIPAL CONTENTS**PAGE**

Direct Labour by Local Authorities— The Facts, Arguments and Counter- Arguments	456
John Sumner's Notebook	460
London-South Wales Motorway— Chiswick-Langley Section Contract Confirmed	460
£1½m. Caernarvon 'Package Deal' Factory	461
In Parliament	464
Profit Through Public Relations— Some Advice for the Smaller Builder	465
1,120-ton Tubular Structure to be Sited off Dungeness	467
Late Construction News	468
Holborn - Kingsway Intersection— Tenders Invited for Improvements	468
Construction of Hull's New Rolling- Lift Bridge	469
Centralised Steam - Generation for Welsh Industrial Estate	471
Book Reviews	471
Men and Movements	472
Trade and Company News	473
Talking of Safety by "Dragee"	494
Municipal Engineers Visit Hawkridge Reservoir	495
Chartered Surveyors Annual Con- ference — Reports of Discussion Groups	496
London Development Features 21- storey Tower Block	496
G.P.O. Services Extensions at London Airport	498
£20m. Tilbury Dock Development ..	498
International Construction	499
CURRENT CONSTRUCTIONAL ACTIVITIES :	
Projects	474
Contracts	478
Awards	485

Publishers

The Contract Journal Co., Ltd.,
32 Southwark Bridge Road, London, S.E.1.
Telephone: Waterloo 3411 (7 lines).
Telegrams: "Seejasir," Sedist, London.

Subscriptions

"The Contract Journal" can be supplied
direct from the above offices. Subscrip-
tions, payable in advance: Yearly, £5 4s.
(post free); half-yearly, £2 12s. An order
form appears on page 528.

Advertisements

Advertisement rates may be obtained
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ment Manager.

CASE FOR AN INQUIRY

THERE is no doubt that the age-old controversy about the efficiency or otherwise of direct labour is hotting up. Last year, a highly critical analysis of the direct labour method, written by Mr. I. Ernest Jones, was published by the Federated Employers Press. Now the N.F.B.T.E. have launched an all-out campaign to winkle out shortcomings in direct labour and bring them to the attention of the public.

First, the facts. Direct labour is big business, employing over 360,000 people, half of whom are with the local authorities and the remainder with Government departments and public authorities. Direct labour appears to be growing, and more and more local authorities are setting up separate works departments. It is worth noting that while the average contractor's labour force is only 16, the average local authority's direct labour force is 123. So much for the argument that direct labour is insignificant.

It is, of course, true that most direct labour operations are concerned with maintenance, and it must be admitted that local authorities, like any large property owner, must have maintenance gangs for routine small-scale maintenance work. But the very size of some local authority direct labour organisations which employ hundreds or even thousands of men indicates that their operations are by no means small scale. Moreover, they not infrequently carry out capital works as well as maintenance.

Once a direct labour organisation becomes, in effect, a commercial enterprise it must expect to be subjected to independent checks and scrutiny just as contractors are. The report on the Placing and Management of Building Contracts, published 17 years ago, referred to the importance of competitive tendering, independent supervision and adequate costing for direct labour organisations. This advice has been repeated many times since. Mr. Marples, when a junior minister in 1953, told the House of Commons that Parliament's intention was that public invitation to tender for contracts for the execution of works should be the rule and that the model standing order for local authorities embodied this principle.

And yet the Ministry of Transport do not enforce competitive tendering on local authority direct labour organisations and the Ministry of Housing only insist upon it for every third contract. The L.C.C., incidentally, have recently been at pains to explain that this latter ruling does not apply to them, while other authorities scoff at the idea of independent supervision.

But the plain fact is that without competition and without independent supervision the efficiency or otherwise of the direct labour method cannot be proved. Apart from isolated cases of patent success or failure, the issue tends to devolve into a futile battle of words between contractors and local authorities.

How different the picture appears to be in America. There the Public Roads Administration has publicly stated that the contract method is more economical and more efficient and the Bureau of Public Roads, after a detailed study, concluded that roads constructed by state forces cost 4 per cent. more than roads constructed by general contractors. A number of state and local officials in America have come out publicly in favour of the contract method

In Britain, however, apart from a poignant comment in the Girdwood Report on the cost of house-building, which stated that the committee found no reason to believe that house-building by direct labour was more economical than building under contract, there appears to have been no official inquiry into the relative merits of the two systems at all.

Clearly the advocates and critics of direct labour are to some extent self-interested. General claims by local authorities that direct labour is efficient are no more convincing than general criticisms by contractors to the reverse. But the issue is much deeper than this. It affects millions of pounds of public money which is being spent apparently without the check of competition and without the safeguards inherent in the contract system. This is not to pre-judge the issue in any way. In the absence of competition and independent supervision there are no available facts on which to form a judgement. An independent inquiry into this important issue would clear the air.

DIRECT LABOUR BY LOCAL AUTHORITIES

The Facts, Arguments and Counter-Arguments

By Our Special Correspondent

Our special correspondent unravels the facts, arguments and counter-arguments regarding direct labour against the background of three recent publications on the subject.

THREE new publications* have appeared on that old and vexed question of direct labour in the past few years. The first, "Building by Direct Labour," written by Mr. W. S. Hilton, really set out the Union's point of view, although the Amalgamated Union of Building Trade Workers, who published it, carefully refrained from endorsing it. The second, whose identical title was less significant than its sub-title, "A Critical Analysis," really set out the employers' point of view, although the National Federation of Building Trades Employers, the ex-employers of author I. Ernest Jones, also refrained from endorsing it. Finally, and most recently, there is "Building by Local Authorities," written under the auspices of the Royal Institute of Public Administration, which presumably sets out the views of the local authorities, or at least the direct labour-minded ones.

As the local authority publication so rightly says a great deal of prejudice and emotion surrounds the use of direct labour. The unwillingness of two of the parties concerned to futher publications about it indicates that it is a "hot potato." The fact that the Government has been reluctant to take a stand on the issue indicates that it is political dynamite. Direct labour is a subject about which many people have views but few are willing to commit themselves. A subject in which facts are scarce and susceptible to distortion. A subject which concerns the expenditure of some £435 million per annum. The purpose of this article is to unravel the facts and the arguments and counter-arguments.

Size and Growth

How big is it? That is the first question. The local authority publication says that the impression of large organisations is untrue. But this statement is based only on a sample survey. The same publication also alleges that local authority direct labour amounts to one tenth of the total contractors' labour force but the direct labour figure is restricted to men engaged on building only. The Union book on the other hand, takes pride in the growth of direct labour and publishes a table of figures to prove it. However, in the table the direct labour figures of new work and repairs and maintenance are everywhere inverted which hardly helps to clarify the picture.

Of course, the Government could enlighten everybody. But as has been noted the Government is very reticent about direct labour. And so while all the figures about the contractors' output and labour force on various types of work are assiduously published every quarter the identical figures collected in respect of local authorities are not. These are not the only figures the Government keeps to itself. It also has up-to-date figures relating to direct labour employed by public utility undertakings and government departments. But it does not publish them. Some figures, it is true, can be found in the Census of Production reports but they are years out of date. So in order to arrive at the current picture it is necessary to proceed by way of a little deduction here and there based on

such figures as are available. Size we are discussing. How big now? How big in the past? How big in the future? How big are some of the particular direct labour departments?

The Census output figures trace the early developments on the building side. In 1907, local authority direct labour accounted for less than 2 per cent. of all building work. By the mid 1920's it was nearly 3 per cent. and by 1930 it had reached over 4 per cent. and grew to nearly 5 per cent. by 1935. The turning point seems to have been the 1920's when a number of local authorities set up direct labour departments, often, it is stated, because of dissatisfaction with the price or quality of contractors' work. Initially the growth was in new work but after 1935 the main concentration and growth has been in the field of maintenance.

The pre-war figures of operatives employed are also of interest. In 1930 the local authorities had no fewer than 190,000 direct labour men—more than today—although of course the gas and electricity undertakings have since been transferred to public utilities. Today the public utility undertakings including the railways employ directly almost as many men as the local authorities. In round figures the direct labour force now divides like this:

Total authorities	182,000
Public utilities	160,000
Government departments	30,000
Total direct labour	372,000
Total contractors	1,080,000

It will be seen that public utilities and government departments together account for over half the direct labour force. The government department men are practically exclusively engaged on maintenance while of the public utility men, some 80,000 are employed on the railways and some 65,000 by gas and electricity undertakings. The activities of all these men go largely unchallenged. It is not here that the main direct labour controversy lies. Nor with the many (but uncounted) maintenance men in industry or the multi-

million army of do-it-yourselfers papering their walls at home. The controversy surrounds the local authorities and it is the local authorities that will be considered exclusively from here on.

There are 1,761 local authorities in Britain today, all potential employers of direct labour. Already 1,477 use direct labour and the number is growing every year as also is the total direct labour force (see Table 1).

TABLE 1
Number of Local Authorities and Number of Operatives Employed on Construction Work Great Britain

	Total	Local Authorities Employing Operatives	No. of Operatives Employed (thousands)
1956	1,757	1,412	172
1957	1,757	1,440	176
1958	1,757	1,451	176
1959	1,757	1,469	183
1960	1,761	1,477	182

Source: Ministry of Works.

What sort of local authorities employ these men? As might be expected it is the large authorities who are the main employers. The 179 County Councils and County Boroughs employ 60 per cent. of the total (see Table 2).

Next the question of size of the individual units. On this basis the local authority direct labour departments are much more sizeable than contractors. In fact the two structures are entirely different. The vast bulk of the contracting firms are very small—over 85 per cent. of them employ fewer than 20 men. Only 39 per cent. of the direct labour departments are that small. Again, half the direct labour force is employed by departments of 500 or more each, while contractors of similar size account for only one fifth of the contractors' labour force. Average sizes are very different too—in the case of local authorities it is 123 men but for contractors only 16. At the top end of the scale there are 49 local authorities with departments averaging 704 men each and a further 28 with departments averaging 2,048 men each (see Table 3).

TABLE 2
Number of Operatives Employed in April, 1960
Analysis of Type of Local Authority

Type of Local Authority	Number of Local Authorities	Operatives Employed	Percentage Distribution
England and Wales			
County Councils	63	47	25.8
County Boroughs	83	52	28.6
Municipal Boroughs	328	34	18.7
Urban District Councils	520	19	10.4
Rural District Councils	333	7	3.9
Total England and Wales	1,327	159	87.4
Scotland			
County Councils	33	9	4.9
Large Boroughs	24	13	6.9
Small Boroughs	93	1	0.8
Total Scotland	150	23	12.6
Total Great Britain	1,477	182	100.0

Source: Ministry of Works.

TABLE 3
Distribution of Local Authorities and Contractors According to the Number of Operatives Employed

Great Britain		Number of Operatives Employed	Local Authorities	Number of Contractors	Operatives Employed By Local Authorities	Operatives Employed By Contractors	Average Number of Operatives Employed		
		Number	Percent. Distribution	Percent. Distribution	Number	Percent. Distribution	Local Authorities Contractors		
1-5	...	189	12.8	58.6	576	0.3	8.6	3	2
6-19	...	394	26.7	27.2	4,442	2.4	17.3	11	10
20-99	...	548	37.1	11.9	25,497	14.2	28.7	47	39
100-499	...	269	18.2	2.0	59,520	32.7	24.0	221	232
500-999	...	49	3.3	0.2	34,487	18.9	7.1	704	710
1,000 and over	...	28	1.9	0.1	57,351	31.5	14.3	2,048	2,227
		1,477	100.0	100.0	182,323	100.0	100.0	123	16

Source: Ministry of Works.

*See References.

There is no gainsaying that direct labour is a sizeable business whatever the Royal Institute of Public Administration may say.

There is a further pointer to the growth of direct labour that should be noted. It can be reasonably assumed that if a local authority sets up a separate works department it is serious about the use of direct labour. The number of operatives employed by local authorities with separate works departments is growing steadily (see Table 4).

Type of Work

Next, the question of the sort of work that is carried out by direct labour? Table 5 gives the broad picture.

Clearly, the main emphasis is on maintenance. Most of the new work is done by the County Boroughs particularly in Scotland where the large boroughs devote 30 per cent. of their direct labour employees to new housing. But overall 82.6 per cent. of the local authority men engaged on repair and maintenance compared with only 31 per cent. of the contractors' men.

TABLE 4
Operatives Employed by Local Authorities with Separate Works Departments
Thousands

	1955	1956	1957	1958	1959	1960
England	54	64	70	74	78	80
Scotland	11	13	12	13	14	15
Wales	5	6	6	5	5	5
Total	70	83	88	92	97	100

Source: Ministry of Labour Gazette.

Further facts about direct labour work which may not have been published before appear in the local authority book. Evidently, the Ministry of Housing collect figures which show that in April, 1959 there were 137 local authorities building new houses by direct labour (presumably Scotland was not included). At that date they had 465 housing schemes in progress covering nearly 14,000 dwellings which represented one out of every eight council houses then under construction.

The local authority housing programme has, as a matter of Government policy, been cut considerably but while the direct labour force on it has declined from its 1953 peak of 25,000 to 18,000 (28 per cent.) the contractors' labour force similarly engaged has fallen from some 250,000 to 125,000 (50 per cent.). Direct labour housing maintenance on the other hand is rising and the local authority publication forecasts that the total direct labour force on building maintenance may rise by another 10,000 men as the local authorities become bigger and bigger property owners.

Table 6 shows the number of local authority men engaged on housing and other building work.

Out of a total local authority direct labour force of 182,000 Table 6 shows that 100,000 men are employed on building work. This leaves 82,000 employed on civil engineering work. The vast majority of these men, about 75,000 in all, are employed on roads. As far as road maintenance and minor improvements are concerned direct labour far outnumbers the contractors. There must be over 65,000 direct labour men employed on road maintenance compared with perhaps 5,000 men employed by contractors. Nowhere is direct labour so firmly entrenched to the exclusion of contractors. The position is not much happier for the contractors on new road works and major improvements. For many years direct labour outnumbered contractors on this work also but with the expansion of the major road programme the respective labour forces have come roughly into balance at about 10,000 each. Apart from roads, some local authorities also carry out water supply and sewerage schemes by direct labour but the work of this character that is undertaken by direct labour does not seem to be substantial.

To sum up at this stage it can be said that the use of direct labour by local authorities is growing. On average the individual departments are larger than con-

tractors' organisations and there are a number of very big municipal units. Direct labour accounts for one-eighth of new local authority housing and for one half of the labour force on new and major road works. It does only a small amount of other new work such as schools, offices, water supply and sewerage schemes. The main emphasis is on maintenance where direct labour employs 80 per cent. of the road maintenance men and a substantial but unknown percentage of the men engaged in maintenance of other local authority property such as houses and schools. Altogether direct labour employs 182,000 men.

Powers of Authorities

Local authority direct labour operations are therefore of some significance and it might be thought that they would be enshrined in statute. This however is not the case. The powers of local authorities to use direct labour are no more than implied. Local authorities have express powers or duties to execute work and it seems that as a result they have by implication the right to carry out this work by direct labour.

a profit to build up a reserve against possible future losses. This latter point is amplified in the local authority publication which points out that a works department cannot underbid when it is short of work and recover profits later when work is more plentiful.

In principle there seems no reason why local authorities should not be free to carry out work for third parties. But it should be quickly added that before doing so they should obtain a clear mandate from their ratepayers. Contracting is a risky business and the ratepayers might not reasonably object if their money is utilised outside the municipal sphere. After all, if the outside operations are not successful it will be the ratepayers' money that will be lost.

Outputs, Profits and Losses

The question of profits and losses on direct labour operations must also be considered in the context of the duty of a local authority towards its ratepayers. That duty is to obtain the best possible value for the ratepayers' money. This surely cannot mean that savings made on some jobs by using direct labour should be allowed to be squandered by losses on other jobs. To do so would seem to place the continued existence of the direct labour department above the interests of the ratepayers.

In practice, however, these two points about a local authority being limited to its own schemes and not operating a profit and loss account are largely academic. They are academic because they relate to the need for manoeuvre to obtain a smooth flow of work whereas in practice, as will be shown later, local authorities can and do keep their direct labour departments supplied with virtually perfect continuity of work simply because they do not have to compete for it. Occasionally an individual department may experience difficulties if for example it is allowed to build itself up for a large scheme and then faces a run down on completion, but in general direct labour does very nicely thank you with regard to continuity of work.

The reference to profits and losses leads to the kernel of this issue—costs. There is only one justification for direct labour. This is that direct labour can carry out work more cheaply than contractors. This does not mean, as the Union publication tries to imply, that the continued use of direct labour should be jeopardised by occasional minor overspendings. And this certainly is not the case because as the local authority publication admits "estimates may be permitted to be out by a small margin." It does, however, mean that the use of direct labour should year by year show a consistent (and not insignificant) saving as compared with the use

TABLE 5
Number of Operatives Employed by Local Authorities in April, 1960,
Analysed by Type of Local Authority
Percentage Distribution of Type of Work

Type of Local Authority	New Work			Total
	Housing	Non-housing	Repair and Maintenance	
England and Wales				
County Councils	1.9	6.7	91.4	100.0
County Boroughs	12.6	11.1	76.3	100.0
Municipal Boroughs	10.6	5.2	84.2	100.0
Urban District Councils	9.1	4.8	86.1	100.0
Rural District Councils	9.2	4.9	85.9	100.0
Total England and Wales	8.4	7.5	84.0	100.0
Scotland				
County Councils	8.7	9.2	82.2	100.0
Large Boroughs	30.5	5.4	64.1	100.0
Small Boroughs	8.3	6.1	85.6	100.0
Total Scotland	20.6	6.9	72.4	100.0
Total Great Britain	10.0	7.5	82.6	100.0

Source: Ministry of Works.

TABLE 6
Number of Operatives Employed by Local Authorities on Building Work
Thousands

	New Housing	Other New Building Work	Building Repairs and Maintenance	Total Building Work
	Housing	Other	Housing	
1956	21	2	41	94
1957	20	2	44	96
1958	19	2	46	97
1959	19	2	48	101
1960	18	2	49	100

Source: Ministry of Works.

of contractors. Savings (or losses) are the acid test of direct labour.

Unfortunately all too little information is available on this subject. Indeed the only guide in the official statistics are the figures of the outputs per man achieved by direct labour and by contractors. Ministry of Works figures are published from which gross outputs per man achieved by contractors on various classes of work can be calculated. Unfortunately the similar figures collected in respect of direct labour are not published so that comparisons by classes of work cannot be made. However, the Board of Trade in their Census of Production reports do publish figures of net outputs achieved for all classes of work. The latest figures available are set out in Table 7.

TABLE 7

Net Output per Person Employed—£		
Contractors	Local Authorities	(a)/(b)
(a)	(b)	%
1954 ... 606	469	129
1955 ... 639	516	124
1956 ... 685	535	128
1957 ... 757	555	136
1958 ... 822	553	148

Source: Board of Trade.

It will be noted that contractors achieve a net output per man which is substantially greater than that achieved by direct labour. Furthermore the disparity is growing. The difference may be partly due to working hours and partly due to the type of work undertaken and it must be remembered that direct labour concentrates on maintenance work where lower outputs might reasonably be expected. Size is also a factor and it has already been noted that on average direct labour departments are much larger than contracting organisations and in general it might be expected that larger organisations would achieve bigger net outputs per man. But the 1954 census results (unfortunately no later figures are at present available) show that contractors beat direct labour on net output all the way along the line as regards size (see Table 8). It is in fact surprising how little difference size makes to the net outputs of local authorities.

TABLE 8
Net Output per Person Comparison by Size—1954

Average No. Employed	Contractors £	Local Authorities £
11-24	552	451
25-49	594	454
50-99	615	456
100-199	625	465
200-299	618	493
300-399	701	486
400-499	684	460
500-749	725	468
750-999	693	447
1,000-1,499	679	483
1,500-1,999	934	474
2,000 and over	771	488
Average 11 and over	654	471

Source: Board of Trade.

The question of profits is obviously a factor that must be taken into account when considering the net outputs. The profit element in the contractors' figures cannot however account for much more than a quarter of the disparity. It should also be remembered that excessive costs go to swell the output of direct labour because they are almost invariably met, but in the case of contractors they are not usually reimbursed and do not therefore swell the output figure.

All in all, and in the absence of more detailed figures, it seems fair to infer that the disparity between the net outputs per man achieved by contractors and direct labour is so great that it points to greater efficiency on the part of contractors.

The question of relative efficiency would of course be resolved if each and every job were the subject of equal and fair competition between direct labour and contractors. Such, however, is not the case. Both the Union and local authority publications admit that competition is the exception rather than the rule. Indeed the local authority publication describes these

local authorities that secure all their schemes by competitive tendering as a "small but interesting minority." But this almost total absence of competition does not prevent either the Union publication or the local authority publication from making their own appraisals of the relative costs of direct labour and contractors.

The Union publication says that out of 661 local authorities whom the author asked to complete a questionnaire, which included a question as to whether the results of direct labour compared favourably with those of contractors, either financially or in general efficiency, five gave replies implying that their departments could be considered failures; 165 did not reply to the particular question either because they had no comparison available or did not wish to commit themselves on a question "so closely related to policy"; 25 rated their performance as "fair"; and 466 indicated that the results were definitely favourable compared with private contractors. Despite the salutary honest comments of five departments and the suspicious silence of 165 others, the results do indicate strong support for direct labour on the part of the actual practitioners. The evidence contrasts strongly with the conclusion of one impartial investigation—the Girdwood enquiry into the cost of house building—which found no reason to believe that house building by direct labour is more economical than building under contract.

The Girdwood Committee conclusion admittedly relates only to house building and dates back to 1946 so let us pass on to the very recent conclusion of the local authority publication—a rather involved and very interesting conclusion indeed. After noting the absence of much firm information, it says that such figures as were available "confirmed the general impression that direct labour is neither markedly cheaper nor markedly more expensive in first costs and that the balance of advantage, if any, is to be found elsewhere." "Elsewhere" is revealed to be better quality of work which results in lower long term maintenance costs. An interesting observation is made that costs of better conditions of service for labour employed by local authorities appeared to cancel out savings on profits made by contractors.

The related question of quality of work is an important one because slipshod workmanship can result in very high maintenance costs. It should be mentioned however that local authorities, like any client, have full power to demand and get the quality of work they desire from their contractors. And contractors hasten to point out that whereas their work is independently supervised the work of direct labour almost invariably is not. There is therefore no safeguard against a works department trimming the specification to prevent an overspending or to create a bigger saving. A quotation in the employers' publication is worth repeating in this context. Dr. A. H. Marshall, city treasurer of Coventry, has said "local authorities should be particularly anxious to guard against a situation in which the heads of departments cynically accept standards of work from a direct labour department which would not be tolerated from a private contractor."

Similar arguments surround the related issue of costing. The Girdwood enquiry into the cost of house building referred to earlier stated that it was not satisfied that all the items normally included in a contractor's price were shown to an equivalent extent in the cost of direct labour schemes and referred to "considerable variations in practice" with regard to apportionment of overhead costs. The recent local authority publication defends the position by stating that there are strong pressures pushing the other way in that no other department wants to shoulder the overheads of the works department. It admits that within the framework of these competing pressures

there may be some differences of opinion on the right division of overheads, but says that such divergencies would appear to have a minimal effect. The employers' publication refers to the patent lack of proper costing for direct labour, to dubious expedients to disguise real costs and to the limited functions of the men who should be the public's watchdogs in this matter, namely the District Auditors.

A surprising and disquieting admission is made in the local authority publication that some local authorities may deliberately over-estimate for non-competitive work in order to avoid criticisms of overspending. It goes on to allege that critics are ever ready to highlight every occasion when final costs exceed estimates, but that the more favourable results are not given their due. Let it first be said that such publicity whether critical or favourable can rarely be indulged in since the necessary facts are not available particularly as competition is the exception rather than the rule. However there seems no reluctance on the part of direct labour to claim their successes when they can prove it, but certainly individual contractors are slow to condemn the failures for fear of biting the hand that feeds them.

To return to the question of comparative costs there nowhere seems to be any overwhelming evidence of the superiority of direct labour as would justify the considerable use to which direct labour is put. A further and most important factor should be noted. The comparisons that are made ignore one tremendous advantage that direct labour enjoys over contractors. This advantage is continuity of work. Direct labour operations are based on a steady flow of work and a steady labour force. Contractors are subject to the ups and downs of the construction programme. And yet with this important advantage direct labour seems to be unable to produce work at a lower cost than contractors.

The question of fluctuations is no academic point. In 1958 for example when the combined effects of the credit squeeze and investment restriction hit the construction industry contractors had to lay off 29,000 men. But the local authority direct labour force remained precisely the same. It is worth noting that the inevitable fluctuations that do occur are all the more severe on contractors when, come fair winds or foul, direct labour continues to take its own steady and not unsubstantial slice.

Competitive Tendering

Direct labour is able to insulate itself from these fluctuations simply because it does not have to compete for its work. This question of competitive tendering must therefore be examined carefully. It takes only a little reading between the lines of the local authority publication and the Union publication to discover that the local authorities themselves simply hate any suggestion that they should be forced to subject their direct labour departments to competitive tendering. The local authority publication for example states that an icy wind blew down the corridor of many works departments when the Ministry of Housing tried to enforce competitive tendering on local authorities in January 1958. It adds, however, that in practice the wind proved less chilly than was expected since authorities were not obliged by the Ministry to compete on all their contracts but only to test the market now and then.

Here lies a dilemma. Parliament's intention clearly is that direct labour departments should compete for their work. But the appropriate Government departments are unwilling to enforce this competition. Parliament's position was stated very clearly in the House of Commons by Mr. Marples when he was in the Ministry of Housing and Local Government in 1953. He said: "Section 266 of the Local Government Act of 1933 makes plain Parliament's intention that public invitation to tender for contracts for the execution

of works should be the rule. The Model Standing Orders with respect to contracts issued for the guidance of local authorities are framed to embody this principle, and the Memorandum accompanying them stresses the importance of adhering to it. My Right Honourable friend (the Minister of Housing) does not think an additional circular is required." Mr. Marples did not however mention that the Local Government Act contains a loophole and makes an exception if standing orders so provide. Nor did he mention that the Model Standing Orders contain an alternative wording which completes the loophole through which all the local authorities gratefully slip. So although the Ministry of Housing and Local Government (formerly the Ministry of Health) has in fact issued a number of circulars to local authorities about the importance of competitive tendering these circulars have been conspicuous for their breach rather than for their observance. And the local authorities have in any event been pleased to discover that these circulars relate only to housing and not to work such as sewage and water supply schemes. The Ministry of Transport for its part has not issued any circulars at all and makes no attempt to enforce competitive tendering upon local authorities carrying out road work by direct labour.

The overall result has been that local authority direct labour departments have become geared to handling, and to expecting, a steady supply of non-competitive work. This is the simple fact. The conflicting and circular claims of direct labour's exponents that it needs continuity work because of the restrictions on its operations and equally that these restrictions must be removed in order to give it continuity of work can now be seen in their true light.

Ambitious Proposals

But although direct labour does not have to survive in a competitive world this does not prevent its exponents from making ambitious proposals for its future development. The late Aneurin Bevan although aware of its poor output record saw direct labour as the indirect means of nationalising the construction industry. The Union publication sees the work of direct labour as ranking second in importance only to that of a proposed National Building Corporation. The local authority publication while admitting that the record of direct labour is one of faithful often humdrum service sees it as providing a unique opportunity for a co-operative effort between the client, the designer and the site organisation in the development of experimental work on the use of new materials, in the use of new building techniques, cost research and pre-planning.

Although in making such ambitious proposals the exponents of direct labour tend to overlook its more obvious shortcomings

there is one defect about which they are prepared to dilate at considerable length.

This is the subject of administration. The Union book for example published in 1954 castigates the inadequate staffing of direct labour departments, the unjustified interference in day to day operations by committees, the absence of costings (previously noted by the Girdwood report in 1946) and other data necessary for proper control. These selfsame criticisms are now made in the local authority book published this year which particularly stresses the inadequate salary scales given to building managers. Clearly little improvement has been made on this vital matter of administration despite the fact that the shortcomings have been known for years.

The problem is however a more fundamental one. It is not so much a question as to whether one type of administrative set-up is to be preferred to another but rather as to whether local authorities are constitutionally and even emotionally the right sort of organisations to carry out construction work.

Clearly every local authority of some size needs a small nucleus of maintenance men. But a glance back at Table 3 shows that many direct labour departments comprise much more than "a small nucleus." There is much evidence to suggest that beyond a certain point the interests of the ratepayers would be better served if local authorities used the contract system rather than direct labour. Beyond this point the local authority becomes an expert buyer-in on behalf of its ratepayers and it has after all a well established construction industry in which to do its shopping.

Where is this point? In the absence of competition this is a question that is rarely asked. The local authorities do not seem to be inclined to do their own soul searching. Having got departments of a certain size their attitude is to use them and keep them fully occupied. Who then can bring about such a fundamental change of approach? The weakness of the employers' book is that it leaves this huge problem to John Citizen and the ballot box.

Government Action Wanted

Let us face the fact that direct labour is unlikely to become a live political issue on which elections national or local will be fought. It is far too narrow and obtuse for that. Equally public announcements from contractors are bound to be labelled as self interested and although there is no reason why they should not be made they are unlikely to yield much in the way of results. The only hope, therefore, is action from the Government. Action to make the Ministries enforce Parliament's intention? Such action has been singularly lacking up to now. But perhaps at least the whole situation is sufficiently open to doubt that the Government might be persuaded to insti-

tute an impartial enquiry into the whole matter. How much longer can the Government tacitly accept without the test of competition the word of the local authorities in the spending of about £200m. of public money every year.

Two thoughts might however be put forward. They relate to the two main fields of direct labour namely housing and roads. The suggestion on housing is prompted by a remarkable statement in the local authority publication. It says that the use of direct labour is advantageous because a council is expected to carry out emergency repairs, at night, in times of severe frosts or other crises with the promptness which private owners or tenants would not expect. Why, however, should council tenants not have to ring up the local plumber or the local electrician just as any private householder has to do? The first suggestion is therefore that council tenants should be made responsible for their own repairs and maintenance and the local authorities should be relieved of this responsibility and thus be able to dispense with their direct labour force used for this work. The second suggestion is a similar one. Might there not be something in a national highway authority after all? Such an authority would relieve local authorities of their responsibility for construction and repair of all roads except say unclassified roads and could be established on strictly commercial lines and directly responsible to the Ministry of Transport.

Finally a quick appraisal of the three books. All are biased and all suffer from the lack of information about direct labour. The Union book in a spirit of undergraduate enthusiasm ignores the shortcomings of direct labour and makes sweeping statements for its future in which gigantic problems of organisation are dismissed in two lines. It also gets some of its figures wrong. The local authority publication tries to be fair but succeeds only in whitewashing direct labour. It does not get to grips with the really fundamental problems. The employers' book is perhaps the fairest of all. In scholarly, text-book style it analyses the defects of the system of direct labour. But its remedies are too pat and too theoretical. The "public-minded citizen" will never resolve this issue.

References

- "Building by Direct Labour — A National Survey," by W. S. Hilton, published by the Amalgamated Union of Building Trade Workers.
- "Building by Direct Labour — A Critical Analysis," by I. Ernest Jones, published by the Federated Employers Press, Ltd.
- "Building by Local Authorities," by Elizabeth Layton. The report of an enquiry by the Royal Institute of Public Administration published by George Allen and Unwin, Ltd.

SPECIAL URBAN ROADS

Local Authorities Ask for More Money

FOLLOWING a recent meeting with Mr. Ernest Marples, Minister of Transport, representatives of the Association of Municipal Corporations are now expecting a decision by the Minister on whether more money can be allocated for special urban roads.

At this meeting Mr. Marples argued that one of the major problems in relation to the road construction programme was the ability of the civil engineering industry to cope with all the work; this was as important as the question of financial resources.

He reminded the representatives that the intention was that, when the system of motorways was completed, there would be no need for long-distance motorists to enter the big cities unless they were residents or were doing business there. He

appreciated that the Association was asking for more money for special urban roads, and he promised that he would consider the suggestion for the setting up of a working party and also consult with the Minister of Housing and Local Government, who was concerned with the whole question of local government finance.

Advantages Being Lost

A.M.C. representatives had earlier pointed out that much of the advantage of the Government's proposals for improving trunk roads and the construction of motorways would be lost if they were not supplemented by the improvement of major roads leading to, and also situated in, the built-up areas.

Much more money needed to be spent on roads than was at present contemplated

if there was to be reasonable provision for the increasing needs of traffic. It had been argued that the cost of motorways in country areas was very much less than the cost of equivalent classes of road in the cities, but while the Government bore the whole of the cost of motorways it bore only 75 per cent. of the cost of construction of roads in county boroughs.

Grants Revision

Local authorities, the Minister was told, were committing themselves to enormous expenditure in the construction of roads for the benefit of the nation, and although the association was not asking—and indeed would not ask—for 100 per cent. grant for this work, it did feel that the present grant arrangements needed revision in the light of the increased expenditure on the type of road which was now being demanded. They reminded the Minister that the recently increased tax on vehicles, which seemed to have raised very little comment, was expected to yield £20 million per year.

John Sumner's Notebook . . .

I AM getting a little tired of reading reports and articles on the business side of building, written by people generally considered to be experts in the field, in which there appear thinly veiled accusations or innuendos relating to the integrity of building contractors.

Not so very long ago the West Riding Standing Joint Committee were told at their meeting at Wakefield by Ald. A. W. Tack, of Keighley, that he had been connected with the building industry for many years (he did not say what the connection was) and that they were "a most unscrupulous lot of people." All because the lowest tender received for alterations at a police headquarters was £5,409, whereas the county architect's department had estimated that the work could be done for £4,000.

Without spending too much time on it I can think of several reasons for this difference in figures, some of which would not, I imagine, please the West Riding Standing Joint Committee very much. Building contractors have broad shoulders I know and, this being a free country, there is nothing to prevent Ald. Tack, and those who think like him, from making these sweeping and extravagant statements in public.

Nor is there anything to prevent Diana Rowntree writing in *The Guardian* to the effect that "in response to the human weakness of the client contractors have evolved 'the package deal'. The contractor undertakes the design process as the first stage of a building project, thus relieving the client of responsibilities that he would be wiser to assume. Who should be in control of a building project? Should it be the architect, who is trained to design a building for its job and in relation to its site? Or the contractor, who is concerned to make the building operation pay? To pay whom? The design that pays the contractor will not always be the one that is most profitable to the building owner or most efficient from the user's point of view."

What, my readers may ask, possible evidence has Miss Rowntree in support of that gratuitous sneer at building contractors? If she has any she did not bother to give it in her article. This did not deter her from continuing in the same vein, for after describing the traditional British practice, that is her description of it, of an architect inviting five or six contractors to tender on the basis of "an outline set of working drawings, a specification, and a bill of quantities," she goes on to say that an alternative method is for "the architect to choose a contractor, and negotiate a contract with him. This method should have the advantage that the contractor can contribute to the design. It will certainly effect economies, but whether the client will benefit by them, or whether they merely allow the contractor to sway the job in the direction that suits his organisation, is by no means certain." Later on she advances the view that "the shape that suits the builder to build may not suit the user of the building. They have a second, less altruistic, reason."

All this is part of a build-up for the architect, of whom she says "neither loyalty to a particular organisation, nor consideration for personal profit should colour his judgment."

WHILE building contractors are struggling to regain their breath, I would remind Miss Rowntree that the day has not yet come when professional integrity within the building industry is confined to 66 Portland Place. If she doubts that I would refer her to a useful and realistic piece of journalism recently indulged in

by the *Ideal Home* magazine. Two months or so ago it published a series of complaints made by readers about the irresponsible and incompetent way their architects had overspent on the available budgets. These complaints, I should like to point out to Miss Rowntree, were facts and they took a great deal of answering. In the end an official statement had to be made, or, to be more truthful, was made by the R.I.B.A., to the effect that an architect given a firm cost limit by his client and who then produces designs which cannot possibly be built within that limit, or nearly so, would not appear to be entitled to recover his fees; not all architects are reliable, any more than all doctors or lawyers are reliable, and it is no part of the R.I.B.A.'s business to defend the incompetent architect.

All this may appear to be by the way. But is it? I firmly believe that builders and architects are in business to make profits on their labours. I have yet to find a builder or an architect who is not, and whether those profits are made by way of fees or the difference between what a job costs and what the builder's price for it makes no difference.

I would, however, add this. In the normal course of events the builder is required to give a fairly full and detailed account of how he arrives at his price. The architect is under no such obligation. His fee is predetermined to the extent that it is based on the cost of the job. Therefore if he feels that his return is likely to be less than the value of the services he will be called upon to give he can decline to accept the commission.

How does he know whether it will be worth his while to go ahead or not? Most of my readers would think that this is a simple question to answer, but we have it from no less a person than Mr. Gordon Ricketts, the Secretary of the R.I.B.A., that in the running of an architectural practice not much is known collectively about the relationship of fees to costs, or their relationship to quality of service to the client. If not much is known collectively then I think that it is reasonable to assume that in the case of most architectural practices not much is known individually. And this in a profession said to be concerned with 65 per cent. of a £2,000m. annual building programme!

While this is the case, Miss Rowntree, sneers at the integrity of building contractors—whose services are bought far too cheaply anyway—are at a discount.

Urban Redevelopment

AT the recent half-yearly meeting of the N.F.B.T.E. I rather gathered the impression that private builders are not at all happy with the views held by some local authorities on the part private contracting firms should play in the work involved in redeveloping urban areas. Some disturbing stories have already come to my notice that the attitude being adopted by many councillors is that the private building firms must be kept out at all costs.

I can now inform them that this is by no means the official view, and my authority is no less than Earl Jellicoe, the Joint Parliamentary Secretary to the Ministry of Housing and Local Government. Deputising for the Minister, Mr. Henry Brooke, at the annual conference of the Urban District Councils Association at Margate a fortnight or so ago, Earl Jellicoe delivered the Minister's speech, so in that sense what he had to say had greater authority still. To those urban district councils thinking along the lines I have mentioned his observations were something of a shock. He told them to think ahead on the redevelopment of their towns

and to start by taking a careful look at the town and particularly at the town centre. He then asked them to assess its assets and deficiencies and, having done this, to assess what the opportunities are for redevelopment over the next 20 years; to try to think out the problems in terms of priorities and to try to draw up a tentative programme.

Then he brought the whole matter back to reality by saying that the whole process of renewal could only flourish successfully if the prosperity of the town was maintained. This could be achieved by encouraging private developers to play their part. "Your aim," he said, "should be to think realistically of the scope for change and to put the brake on private redevelopment only where that seems certain to conflict with practical plans for the future."

That is plain enough, but later he returned to the theme by stressing that in our towns today most of what we take pride in from the past was originally the product of both private and public initiative and that in redevelopment there were splendid opportunities for successful collaboration between public and private enterprise.

THERE can be no doubt, of course, that local authorities have big advantages over private developers. Two of the most important are their powers in regard to planning and compulsory purchase but, as Earl Jellicoe made clear, successfully to carry out commercial development calls for experience, organisation, skill, knowledge of the market, and so forth, in all of which the private developer is generally better trained than any local authority can be. He therefore urged local authorities to attract private developers and private capital to participate with councils in schemes which looked like being sound business propositions—for both parties.

I don't know what the reaction of the urban district councils will be to this advice. Some will already be acting along these lines; others will probably be persuaded by the Parliamentary Secretary's observations. There will still remain a fair number who, I fear, will only co-operate with private enterprise as a last resort. However, I hope that the prominence I have given to the official view on the matter will assist private contractors and developers if and when they find it necessary to argue their case with uncooperative local authorities.

LONDON-SOUTH WALES MOTORWAY

Chiswick-Langley Section Contract

Mr. Ernest Marples, Minister of Transport, has now accepted a tender submitted by Fitzpatrick and Son (Contractors), Ltd., for initial work on the Chiswick-Langley section of the London-South Wales Motorway. The tender, as reported previously in the Journal, amounts to £459,104.

The main purpose of the work is to re-position the two 30ft. carriageways of the Great West Road between the Chiswick Flyover and Boston Park Road to allow for an 18ft. central reservation on which the supports for the motorway viaduct will later be erected. The present contract also provides for the construction of pedestrian subways at intervals along this part of the Great West Road.

The work is to be completed in 15 months, and is to be done in such a way as to cause the least possible interference with traffic using the Great West Road.

Letting of contracts for the construction of the viaduct and of the remainder of the motorway will be timed to aim at completion of the whole of this length of motorway in 1964.

The roadworks and the viaduct have been designed for the Ministry by Sir Alexander Gibb and Partners, consulting engineers.

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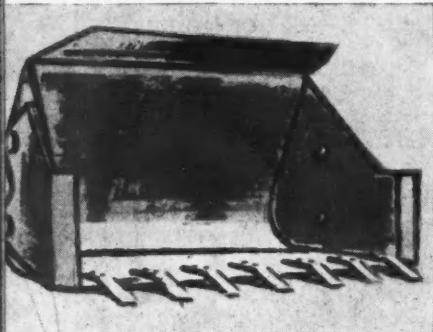
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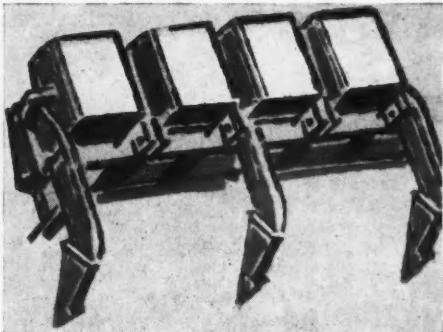


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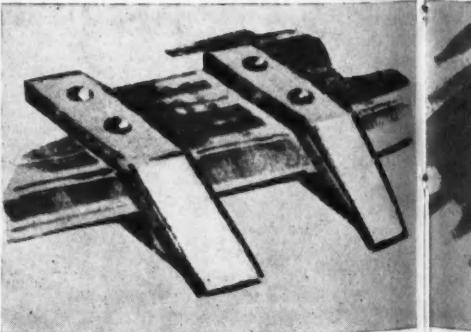
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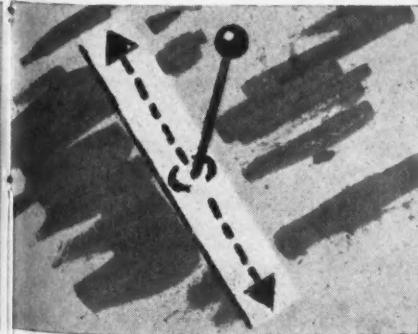
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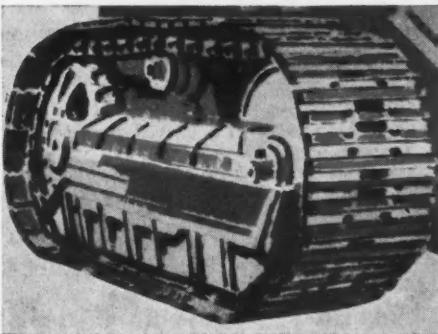
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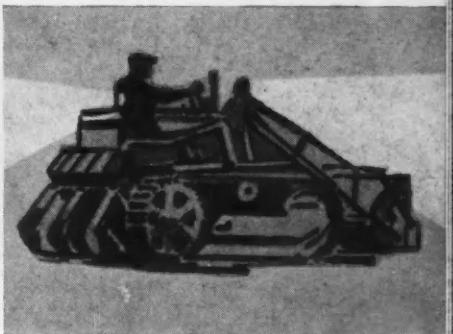
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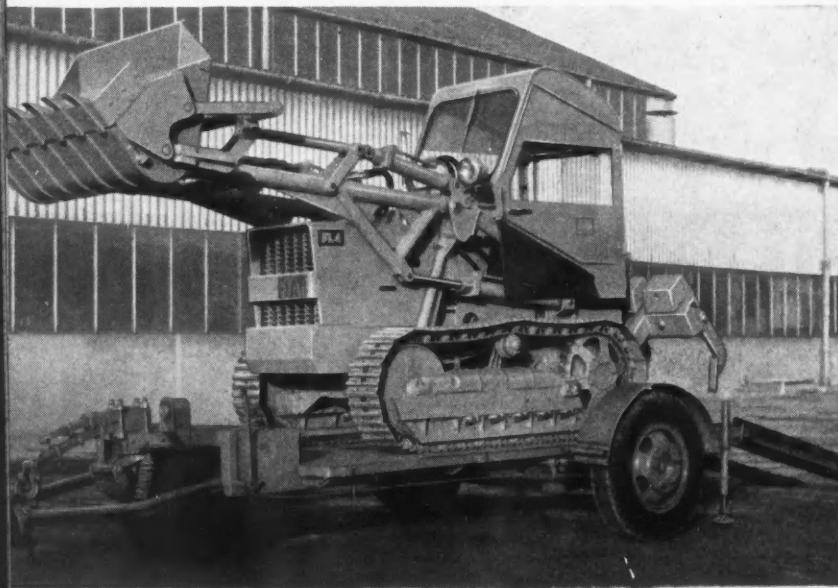
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£1 $\frac{3}{4}$ M. CAERNARVON 'PACKAGE DEAL' FACTORY

15-Month Completion Schedule for 250,000 sq. ft. Scheme

WORK is already more than half completed on a new factory for Ferodo, Ltd., at Griffiths Crossing, Caernarvon, where the foundation stone was laid last week by Mr. R. G. Soothill, the chairman of the parent organisation, Turner and Newall, Ltd.

After close consultation with the Board of Trade, the 50-acre site, which overlooks the Menai Straits, was selected because of its proximity to the available labour, and excavation work began in January of this year. The factory, which will produce brake linings, clutch facings and non-slip staitrreads, is expected to be completed by next April, the steel-framed structure being now almost fully-clad.

Scenic Protection

In the design and construction of the factory, which is situated within a few miles of the Snowdonia National Park, particular care has been taken to ensure that the amenities of the district are not harmed. Trees will be planted between the Menai Straits' foreshore and the buildings, to screen the factory from Anglesey, while planting between road and railway will break up the outline seen from the road. The production block, a single-storey building, 800ft. long and 300ft. wide, will be only 29ft. high. To ensure that the building takes on a local colour, exposed aggregate slabs are being used for the lower 8ft., incorporating a high proportion of local materials. The side cladding and roof are to be a Cumberland stone colour, the roof spandrels dark olive green, and the trim, asbestos coloured white.

Also in the interests of local amenity, the whole site has been dropped 3ft. 6in. below the original average level in order to conceal the factory as much as possible, and this involved about 120,000 cu. yd. of excavation.

All the factory buildings will be concentrated between the railway line and the



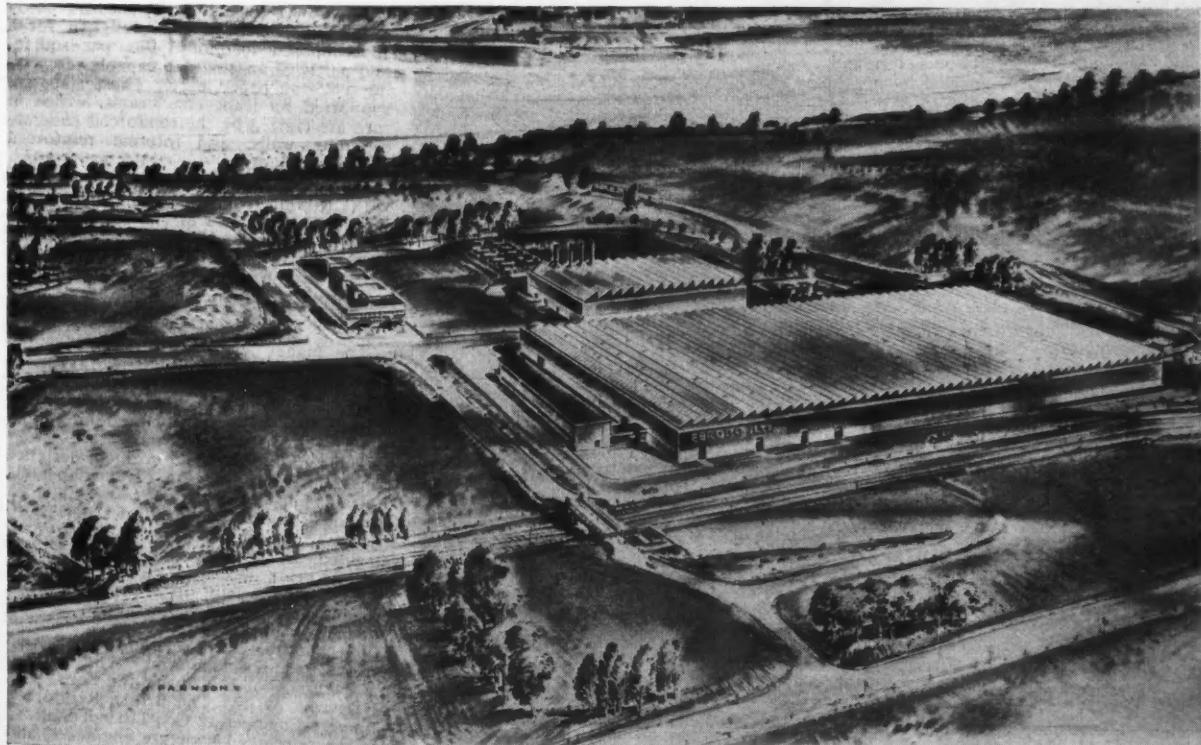
The full length of a bay in the production block

Menai Straits. Three asbestos-clad, steel-framed structures are being used for the production, service and canteen blocks, with Arcon sawtooth roof building for the two former and Arcon monitor roof for the latter.

The production block is designed on the open plan principle to provide maximum flexibility of plant arrangement as the company's plans develop. In planning the

site, provision has also been made for the erection of two further production blocks of a similar size, should this be necessary in a few years' time. The service block will be 250ft. long and 100ft. wide, and the canteen block 120ft. long and 90ft. wide.

The two-storey office block will be a reinforced, concrete-framed building 180ft. long and 48ft. wide, with provision made for a third storey to be added later if



Artist's impression of the completed factory viewed from the air

necessary. Between the road and the railway, provision has been made for a park for cars and buses.

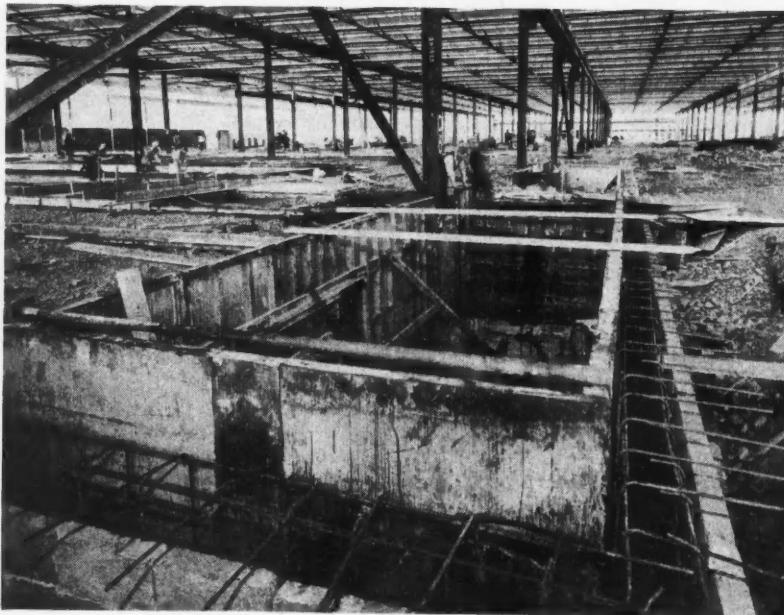
Present Progress

Despite a period of three weeks when the bulldozers were only able to carry out about three full days of work, the contractors are now ahead of their programme schedule.

The production block is well on the way to completion and almost ready to receive machinery. Mechanical and electrical installations have already begun and ventilation fans will soon be installed in

and will ultimately have a gatehouse by the main road. The road system itself, together with all buildings, has been provided with drains, although the roads will not be metalled until the scheme is nearer completion.

Work is also going ahead on the service, canteen and office blocks, as well as the single-storey link between factory and offices, which is to house the first aid and medical rooms. The service block is beginning to take shape; in the two-storey office block the majority of the concrete work, including the staircase, is well under



Erection of shuttering prior to concreting the walls of the pits for friction materials impregnating tanks

the roof-slopes. The concrete floor slab will be laid within 11 weeks, and this will be 9in. thick over the whole area, containing pits for machines and plant. A cement batching plant was set up on the site and a monorail installed to transport the concrete and tip it where required.

A new single-track bridge across the railway line giving direct access from the main road to the works road has been constructed. It can take loads of 50 tons

way; the canteen block will begin to take shape shortly.

The transformer switch house is completed ready for the installation of main cables and a start is being made on the effluent disposal plant.

Designers and Contractors

The cost of the whole project is estimated at £2½m. Costing about £1¾m., the contract, which is being carried out by Taylor

Woodrow Construction, Ltd., is of the all-in service type and includes design, construction, electrical, heating, ventilating and certain mechanical plant installations. Mr. Melville Blanchard, A.R.I.B.A., is the chief architect with the Taylor Woodrow Group.

Among the principal sub-contractors and suppliers are the following: Taylor Woodrow (Arcon), Ltd., superstructure; Newalls Insulation, Ltd., suspended ceilings; Turners Asbestos Cement Co., Ltd., asbestos products; Ardon (Painting Contractors), Ltd., decoration; E. J. Elgood, Ltd., granolithic paving; Richardson and Westgarth (Hartlepool), Ltd., boiler installation; Tanjon (N/C), Ltd., electrical installation; W. Taylor and Son, excavation; G. N. Haden and Sons, Ltd., heating and ventilation; Trinidad Lake Asphalt Co., tarmacadam; Geo. E. Tupholme and Co., Ltd., dust extraction plant; Fire Armour, Ltd., sprinkler system; Semtex, Ltd., tile floors; McWaney, Smallman and Co., Ltd., steel erection and sheeting; Weirs Glass, Ltd., glazing; Hills (West Bromwich), Ltd., metal windows; S. Warner and Son, Ltd., patent glazing; Brooks Ventilation Units, Ltd., ventilators; United Steel Co., and Tubwrights, Ltd., steelwork; Enston Bros., precast concrete and aggregates; Castle Brick Co., Ltd., bricks; Tunnel Cement Co., cement; G.K.N., Ltd., reinforcing fabric.

BOURNEMOUTH NEWSPAPER BUILDING EXTENSION

AN extension is now under construction for the "Evening Echo," Bournemouth (Southern Newspapers, Ltd.), consisting of a three-storey building with deep basements, covering a plan area of approximately 120ft. x 55ft.

The lower basement slab is 9in. thick and cast on the ground with p.v.c. water bars at all construction joints to ensure freedom from dampness. This slab is monolithic with the internal stanchion bases and with the enclosing reinforced concrete retaining walls which are 12in. to 18in. thick, and vary in height from 10ft. to 22ft. The subsoil consists of hard compact sand, and the foundations were designed for a ground bearing pressure of 4 tons per sq. ft.

The lower ground floor consists partly of a 7in. suspended slab designed for a superimposed load of 150lb. per sq. ft., and partly of an 8in. slab capable of carrying a 25-ton paper lorry. These slabs are supported on transverse beams, which in turn are carried by the reinforced concrete retaining walls, and internal reinforced concrete columns.

Part of the upper ground floor, together with a ramp connecting the upper and lower levels, consists of 7in. slabs designed for a superload of 150lb. per sq. ft., again supported by reinforced concrete beams carried by the retaining walls and internal reinforced concrete columns.

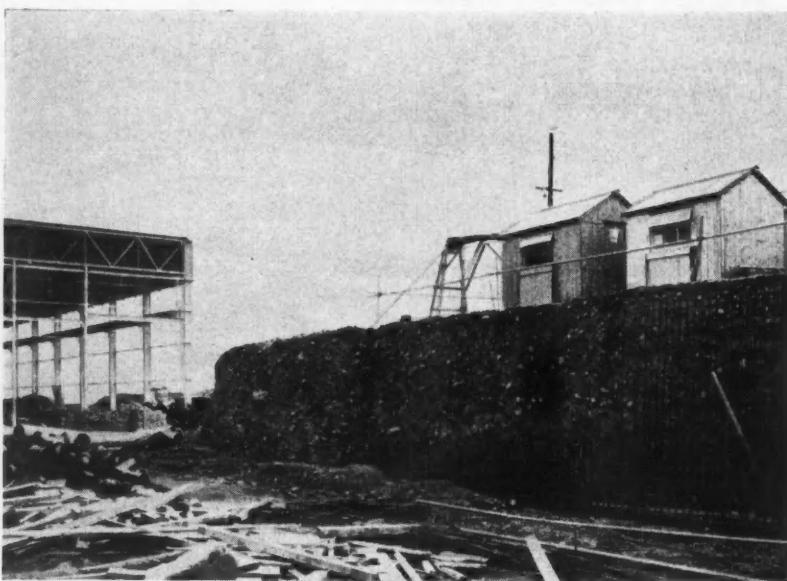
Higher Levels

The higher levels of the extension are supported by structural steelwork carried by the basement reinforced concrete columns and walls, with floors constructed in precast slabs, except for the foundry and Linotype floors, which are in situ.

The foundry floor is 9in. thick, designed for a superimposed load of 2cwt. per sq. ft., and the Linotype floor is 7in. thick, designed for a superload of 1cwt. per sq. ft.

Three new press beds are being constructed in the existing building, the presses being mounted on a 12in. thick base slab with built-up sections in plain concrete, the whole being capable of supporting a load of 146 tons.

The architects are Weston, Burnett and Thorne, of Southampton. The general contractor is W. E. Chivers and Sons, Ltd., of Devizes, Wilts. The British Reinforced Concrete Engineering Co., Ltd., of Stafford are the reinforced concrete engineers, and also suppliers of the reinforcement.



An example of how the site was dropped below the original ground level in the interests of local amenity

GOOD PROGRESS ON THE M.6 MOTORWAY

River-Canal-Rail Crossing Nearing Completion

EARLY next month, when more than 900ft. of steel girders weighing 440 tons are moved across the valley at Gathurst, in Lancashire, the first of the three large viaducts on the Birmingham-Preston Motorway (M.6) will be nearing completion.

Work is now in progress along the whole 78-mile length of the motorway from Dunston in Staffordshire to the Preston By-pass, and is scheduled for completion in 1963. The first works to be put in hand in 1959 were the viaducts, and four road-over-rail bridges being built by the British Transport Commission.

The viaduct at Gathurst, some three miles west of Wigan, will be completed by the end of this year. Cresswell Viaduct, adjoining the Stafford By-pass, should be ready early next year, and the mile-and-a-quarter long Thelwall Viaduct, three miles east of Warrington, will be completed in about a year's time.

Spectacular Structure

The Gathurst Viaduct and approaches is a spectacular steel girder structure of more than a quarter-mile long. It goes over an 85ft. deep valley, the river Douglas, the Leeds-Liverpool Canal, the Wigan-Southport Railway and a minor road.

The viaduct, now being built by A. Monk and Co., Ltd., at a cost of more than £800,000, consists of four 150ft. spans and two side spans of 100ft. each, with a 400ft. long embankment at the northern approach and a 200ft. embankment to the south. Between parapets, the viaduct will be 108ft. wide, while the approach embankments will be 124ft. wide at finished road level.

More than 700 piles had to be driven into the silty clay overlaying shale and sandstone for the foundations. The total length of piles amounted to 30,000 lin. ft. Foundations of the three centre piers had to be formed in permanent steel sheet piled cofferdams, due to the proximity of the canal and river.

Abutments and piers in reinforced concrete vary in height from 36ft. to 70ft. above the footings; the pier columns are 6ft. in diameter. All the concrete for this work was weigh-batched, mixed and pumped directly where required, as access to individual sites by ordinary transport was difficult because of the railway, canal and river.

The steel girders for the viaduct are designed as continuous beams over the full 800ft. There are 10 of these girders of 10ft. overall depth and of welded construction. They are fabricated in sections up to 93ft. long, weighing about 23 tons.

Week-end "Launchings" Only

At the back end of the launching area, high on the north embankment, the girders are off-loaded by temporary gantries and positioned on the launching track which is 380ft. long, with 2½in. steel balls in pairs in channels to form a ball-race. The two girders to be launched are then braced together and rolled into position for attachment to the 110ft. long latticed launching nose, used to keep the loads on the piers to a minimum during launching.

The girders are then moved from the abutment out over the piers, usually for a length of one or two spans—150ft. or 300ft.—at a time. Work on the launching can take place only from Saturday midnight to Sunday mid-afternoon to avoid interference with railway working below.

When the full length of 800ft. of girder and 110ft. of launching nose is being rolled, a load of some 440 tons is involved. Tests on the steel balls gave a value of 4 per cent. friction to be overcome; and, as the girders are moved up a 1 in 200 gradient, the calculated force required at the launching platform is in the region of 20 tons. This

is applied by using sheave blocks between the pulling frame and a six-ton electric winch.

The rate of movement of the girders varies between a foot and one-and-a-half feet per minute.

When the launch of a pair of girders is completed, the launching nose is dismantled at the south embankment and returned by road to the north embankment for re-erection. Eight girders in four pairs have already been placed in position by this method.

It is expected that the final pair of girders will be in position during August. About two acres of 9in. thick reinforced concrete will then be laid to form the deck slab, waterproofed and surfaced with 3in. of hot rolled asphalt. All this work should be completed by December.

Crossing the Ship Canal

Some 20 miles to the south, on the Lancashire-Cheshire boundary, Leonard Fairclough, Ltd., are building the one-and-a-quarter mile Thelwall Viaduct and approaches over the Manchester Ship

completed, more than 1,600 piles having been driven. On the north bank of the Canal, however, working in cofferdams has just started for the piles for the main Canal crossing pier.

On the south (Cheshire) side of the canal, three-quarters of the piers—four-legged reinforced concrete portal frames varying in height from 30ft. to 80ft. above ground—have been completed. A temporary ramp, formed from 272,000 tons of imported filling, has been formed at the southern end of the viaduct to facilitate transport of materials to deck level. This will later be incorporated in the motorway embankment, which will be completed by Cheshire County Council.

On the north (Lancashire) side of the canal, about a quarter of the piers, including the river Mersey piers and abutments and the end abutment, have been completed.

Delivery and erection of the steelwork for the superstructure has commenced. The bridge structure carries two independent decks connected by a reinforced concrete



The quarter-mile long Gathurst Viaduct, which will carry the M.6 over the River Douglas, the Leeds-Liverpool Canal and the Wigan-Southport Railway, is nearing completion. Viewed from the foot of the north embankment, this shows eight of the ten pairs of girders in position on the 85ft. high reinforced concrete portal frame piers

Canal and the River Mersey—a £5m. contract.

The work comprises construction of a multi-span bridge; road works and approach embankments between the Manchester-Liverpool road (A.57) and the Manchester-Chester trunk road (A.56); diversion of A.57 in dual carriageway construction on a line south of its existing route; construction of a new two-span bridge carrying the diverted route over the motorway at Martinscroft; and construction of part of the motorway junction of the double-U type with terminal roundabouts and slip roads.

The Thelwall Bridge, 4,417ft. long will carry the motorway at a height of 93ft. over the Ship Canal and the river on 36 spans. It will be 22ft. wide between parapets to accommodate dual 36ft. carriageways and a central reserve.

Because of the terrain, extensive piling had to be carried out. This is almost

slab in the central reservation. Each of the three lengths of some 1,100ft. is fixed laterally to a centre pier, allowing five spans each side, supported on single steel roller bearings, to expand.

28-ton Girders

The deck is supported on eight steel girders, four under each carriageway. The approach span girders are 8ft. 6in. deep in welded construction, weighing about 28 tons each. The canal crossing girders are riveted and vary in depth from 10ft. to 20ft.

Erection of the girders has started from the southernmost end; 24 girders over the three most southerly spans were in place by the end of June, and it is expected to complete another span every fortnight from now on.

As was the case last year with the Barton High Level Bridge on M.62, special

(Concluded on page 464)

In Parliament

ABOUT 170 MILES OF MOTORWAY NOW UNDER CONSTRUCTION

Preliminary Work in Hand for Further 420 Miles

THE Minister of Transport, Mr. Ernest Marples, stated in the Commons last week that about 170 miles of motorway were now under construction. Since April 30 contracts had been placed for 50 miles, and he hoped that contracts for major bridge and tunnel works on the routes of a further 30 miles would be placed by the end of this year.

Mr. Marples said he was going ahead, as fast as statutory procedures and availability of funds permitted, with the detailed preparation on all projects for which lines had been fixed. Preliminary work was meanwhile in hand on some 420 miles of proposed motorway for which lines had not yet been established.

Mr. Strauss: Can the Minister say whether he is being held up in any way from launching a bigger programme by the absence of road-making equipment, civil engineers or manpower?

Mr. Marples: The limiting factor generally is skilled labour, especially in the urban areas.

Booklet ("Missing Links 3")

Sir W. Wakefield asked if the Minister had studied the booklet, "Missing Links 3," describing the places where work on A.6, A.31, A.40 and A.56 was required; and when he intended to begin work in those places.

Mr. Marples: I read this publication with interest, but I regret that I cannot yet say when work on these schemes can start. At present I am concentrating available funds mainly upon the early completion of the five major projects and the most urgent classified road schemes in congested areas.

Ground Readout Station

The Secretary of State for Air, Mr. Julian Amery, announced that H.M. Government and the Government of the United States had agreed to establish a

ground readout station of the Missile Defence Alarm System, MIDAS. This would be situated at the Royal Air Force Station, Kirkbridge, in Cumberland.

The United Kingdom, he stated, would provide the land, domestic accommodation, and certain existing buildings as well as the communications and equipment required to link the station with our own authorities. The capital cost to this country was expected to be in the region of £2.3m. Its capital cost to the United States was expected to be about £10m.

Dagenham Road Improvement

Replying to Mr. Parker, the Minister of Transport in a written answer said that the improvement of the Chequers Lane intersection at Dagenham was planned as part of a larger scheme for the improvement of A.13. Amendments to the main scheme were proving necessary and in order to avoid delay the reconstruction of the Chequers Lane junction would now be carried out as a separate contract, for which tenders would be invited as soon as the necessary documents were ready. He hoped work would start towards the end of this year.

Civil Engineering Research

In a written answer the Parliamentary Secretary for Science Mr. Denzil Freeth, told Mr. Bence that the Department of Scientific and Industrial Research had given help and advice in the formation of the Civil Engineering Research Council and that the Secretary of the Department was a member of the Council.

No application for grant aid had yet been received from the Council, but the Department itself was already making 19 scientific research grants totalling £61,000 to 11 different universities and colleges for civil engineering research.

Knottingley Housing

Questioned by Mr. Jeger, the Minister of Housing and Local Government, Mr.

Henry Brooke, stated that he was aware that the Knottingley Urban District Council had agreed to build 1,200 houses for miners over the next four years. But he had no reason to believe that any conference was required in order to ensure provision of the necessary local services.

Dundee Hospital

The Secretary of State for Scotland, Mr. John MacLay, in a written answer informed Mr. G. M. Thomson that a decision in principle to build a new general hospital in Dundee had been announced in 1955; the architect had been appointed in 1956 and detailed work on plans commenced in 1959; building was expected to begin in 1963 or 1964; the building period could not yet be reliably estimated but was unlikely to be less than five to six years. The present estimated cost of the hospital and medical school together was about £9m.

Land Prices

During a debate on land prices the Minister of Housing and Local Government, Mr. Brooke, said that interference with economic forces would result in less land coming on to the market. He stated that high prices tended to bring more land into use and made the redevelopment of outdated property more attractive.

Nevertheless, he agreed that it might be that land was being held back from development by people who had bought it and were "sitting on it." He warned such people that if an artificial shortage was created in that way he would be prepared to consider a compulsory Order to be made by the local authority for those who would develop the land.

In general, however, over the greater part of England and Wales, the Minister said that the movements in land prices during recent years had been no more than would be normal in a reasonably prosperous society. Only in certain areas, in London, in some industrial areas and coastal resorts, had land prices risen much more than the normal amount.

PARKING METERS FOR FINSBURY

The Minister of Transport has approved, subject to minor modifications, the application by Finsbury Borough Council for a parking meter scheme. The scheme is expected to come into operation towards the end of November.

(Concluded from page 463)

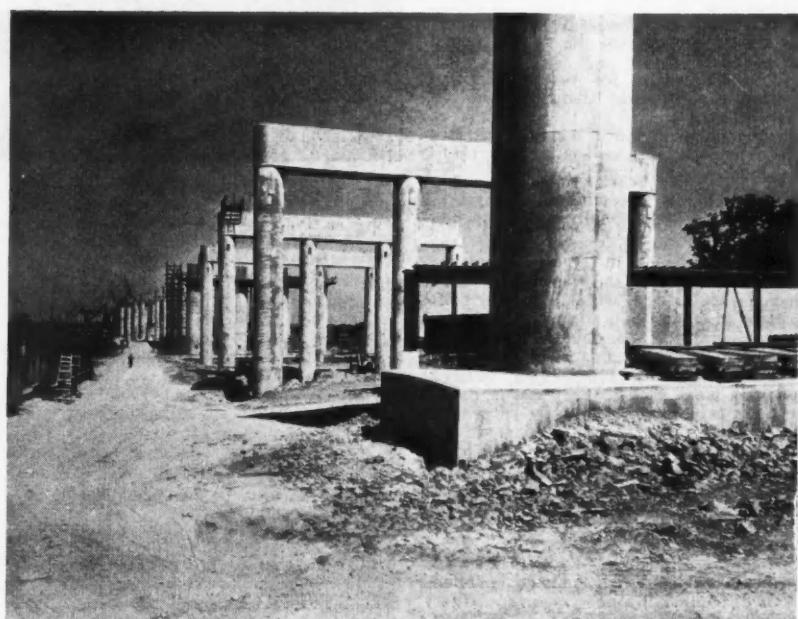
measures will have to be taken next year when the steelwork is erected over the Ship Canal to ensure that there is no interruption of navigation.

A start is to be made shortly with the Mersey crossing. Steel girders will be cantilevered out across the river. The embankment carrying the motorway up to this crossing has been constructed on soft alluvial deposits—mainly sandy or clayey silts—up to 30ft. deep. These had to be stabilised by the use of vertical sand drains—about 3,300 varying in depth between 15ft. and 30ft. spaced out over the whole 7½ acres covered by the embankment.

At the northern end of the contract, Martinscroft Bridge, which will carry the A.57 road over the motorway and form part of the two-level junction between these roads, is complete except for the concrete decking and final surface. It has two 71ft. spans in steel beams with a reinforced concrete slab on masonry-faced piers and abutments.

The whole of the Thelwall bridgeworks and approaches will be completed before they are reached by the roadworks of the motorway in 1963.

Design work on both Gathurst and Thelwall Viaducts and supervision of the construction is being carried out by Lancashire County Council (county surveyor Mr. James Drake, B.Sc., M.I.C.E., M.I.Mun.E., F.Inst.H.E.) as agent authority to the Minister of Transport.



The one-and-a-quarter mile-long Thelwall Viaduct, which will carry the M.6 over the Manchester Ship Canal and the Mersey on the Cheshire-Lancashire boundary, is making good progress. This shows the 80ft. high reinforced concrete portal frame piers which will carry the 28-ton approach span girders of the superstructure on the Cheshire side.

PROFIT THROUGH PUBLIC RELATIONS

Some Advice for the Smaller Builder

"IT is my strong belief that a better understanding of good public relations will not only benefit the builder but will benefit the industry as a whole," said Mr. Peter Trench, O.B.E., T.D., national director, National Federation of Building Trades Employers, in a Paper presented at the National Federation's half-yearly meeting held recently in Blackpool.

"It is easy to think that the industry is judged only by the gigantic projects now going on in our towns and cities: projects with their viewing platforms, illuminated nameboards, their neon-lighted tower cranes, and the mystic letters painted neatly on each pane of glass as glazing is completed. To quite a degree this is correct, but let us never forget that it is also judged by the housewife who 'has the builders in' and the hundreds of thousands of consumers in homes, factories, shops and offices who are at the receiving end of the builder's treatment. The building industry to them is epitomised by the rather drab character who leaves colourful marks on the carpet, works to hours and days not known in the modern calendar, makes a noise almost beyond human endurance and then charges them for the privilege.

"To say the least our public image is not a happy one. It is curious but true that the motor car industry is not judged by the thousands of small country garages up and down the country—many, no doubt, comparatively less competent than some of our smaller builders. Nor do the public see the undoubtedly inefficiency behind the factory walls. But builders go into their customers' premises and display their wares for all to see and hear. Not for them the anonymity and protection of the factory walls and not for them judgment based on the most efficient unit."

Mr. Trench stated that the National Federation was fully aware of its own responsibilities in this matter of public relations, and that with the resources at its disposal, it was tackling the problem actively and with some success. Nobody, however, could sell a dud product, hence their interest in seeing that the product they were endeavouring to sell was really saleable.

"Nine builders out of 10 if asked the question 'What is your sales policy?' would either say 'Don't be daft, I'm not selling tomatoes,' or 'I haven't got one,' and they might add 'I don't need one,'" continued Mr. Trench. "Nine out of 10 builders would be wrong—unless, of course, their business is perfect.

Function of Management

"Selling is a function of management and it is just as much a function of management in building as in any other industry. What have you to sell? Yourself, your services, and the good name of your company. These are your wares. This nebulous thing called reputation is of little commercial value unless it is made use of and exploited in the best sense of the term. When I hear, as I often do, of a building firm perfectly capable of efficiently undertaking a local job, complaining that it has been snatched from him by a so-called national contractor I can't help but feel that he should first look at his own public relations before he embarks on other excuses such as 'London architects prefer

London contractors,' 'bribery and corruption,' 'greater facilities for finance,' etc. In many cases the firm concerned has failed to put itself across to its own local architects, let alone to architects outside its home town.

Sales Policy

"What do I mean by a 'Sales Policy'? Perhaps this can best be answered by a further series of questions. What is your market? What are your geographical limitations? Are you selling to architects, quantity surveyors, or the public, or all of them? Which architects—local authority, private, local and/or national? Which public—general commercial, industrial or local authority? What type of work are you trying to sell? Is your policy to remain at your present size or to expand? What are the limitations to your sales? Are you trying to get on tender lists, or are you aiming at negotiated contracts? Who is responsible for getting work? Should you sell more of some sort of work than another sort of work, or more at one time of the year than at other times of the year? and so on and so on. Let us admit that of all industry building is the most difficult to ensure a controlled and regulated turnover; but nevertheless a sales policy is required irrespective of whether you have a full order book and irrespective of whether it is your intention to expand or not. A sales policy, I suggest, is also required no matter what the size of the firm may be.

"All right, you say, we need all these things, and you haven't mentioned anything we haven't thought of. Maybe, but have you woven all this into a predetermined policy and have you closely defined the responsibilities for carrying it out? The question, I repeat, is of equal validity to the smallest as well as the largest in the land. The largest, however, can have specialised departments and outside public relations firms to help in carrying out this sales policy. For the smallest it is a matter for the principal himself.

Relations with Public

"The public will have knowledge of a building firm from its reputation, by experience, by hearsay, by advertisement, by the way it puts itself across. So will it be judged, and so will it bring about a conscious or subconscious public image. 'X and Sons—oh, those people, the biggest swindlers south of the border.' 'Z Bros. the people who never answer letters.' 'Q Ltd., now they're a good bunch—very willing people even if not 100 per cent. efficient.' 'Y Partners—the people with the striped nameboard.'

"I have already said you can't sell a dud product, anyhow not for long, and I am therefore making two assumptions about firms in so far as this talk is concerned. First complete integrity and, secondly, reasonable efficiency; without these virtues I doubt whether public relations can be of help for long.

"If you accept my earlier thesis that public relations is a function of management you should accept that it should be the responsibility of a director, partner or principal. You should accept, too, that an established policy should be agreed at board level. This does not mean the budgeting of large sums of money to be allocated on an annual basis. In the first place it means looking at the value for what you are spending intentionally or unintentionally on selling at the moment.

Nameboards

"The large majority of builders spend money on nameboards, ranging from the scruffy battered sign to the illuminated and composite board. They do this, presumably, to advertise their wares as well as indicating to delivery vehicles where

their job is. God help some of them! The first axiom which should be applied to any nameboard is that it should be clean and in good condition. I would have thought that it would be worth paying a bit a day to one of the chaps on the site to keep it clean, for believe you me a scruffy nameboard is doing more harm than good to its owner. Secondly, it should attract attention, not by emitting penetrating catcalls at irregular intervals, but by its make-up, colouring, and its positioning.

"Separate colours for lettering and background are obvious, but what is not so obvious is that some colours are far better for letters against a particular background than others. Look, for example, at the new road signs on the M.I. It is useless to have lettering that requires the reader to put on his glasses at 10ft. to see them. As for siting, I sometimes wonder what purpose is served by small boards fixed flat against the face of a building three storeys up. Is it that there is a potential customer three storeys up in the building across the street? Certainly the passing motorist can't see it nor probably can the pedestrian unless he looks up to see if the sun is shining. If it is possible surely the best position for the board (double if necessary) is projecting at an angle from the building. The dual boards, forming a horizontal V can be seen by all and sundry coming both ways down the road. Size and proportion are important. It is only a personal reaction but sometimes when I see an outsize board of a national contractor almost screening the small project behind it I wonder whether that particular firm is short of work. Two sizes of board are useful.

"There are, no doubt, some of my audience who are inclined to believe that this nameboard stuff is trivial and of little importance. They must allow me to disagree. Shape, information given, (don't clutter it with words nobody will read), when to put it up (if you know that there will be no progress on the site for six months for heaven's sake don't put it up at the beginning of the job), and when to take it down (take it down immediately the job is finished or everybody will be asking when on earth you are going to get out), the relationship between the colour and the company, telephone numbers and addresses, the use of materials for nameboards, paint that fades, protection against the local beatniks, and so on. Don't dismiss this subject as unimportant.

Hoardings

"Nameboards lead one naturally to hoardings. Old doors and rusty corrugated iron may be cheap, but by golly they don't give a good impression when strung together, and the best advice I can give to the builder who has to fall back on these little bits of economy is not to put his nameboard on the job at all, even if the visiting sub-contractors' lorries get lost looking for him. If you put up a good hoarding, consider using the company colours on it. Don't put observation windows in the hoarding if there is only chaos to be seen behind. If it is that sort of job in a built-up area why not at that stage put up a brief notice to passers-by behind glass (a) telling them what you are building, and (b) apologising for any inconvenience caused. Notices such as this require renewing frequently. Incidentally one job I went to in New York not only had observation windows in the hoardings at eye-level for the passers-by but small ones just above the ground over which they painted the words 'Dogs only.' This is a form of one-up-manship which may not work over here.

"From nameboards and hoardings to other weapons in the builder's armoury on which his name features not for security



PETER TRENCH

but for publicity purposes, e.g. lorries and plant. What goes for nameboards goes for lorries. It is the most difficult thing in the world to keep a builder's lorry from getting scruffy, but it is most certainly worth thinking about. It is a moving advertisement for your concern and is probably seen by many more people than those who pass your nameboard.

"Apart from conditions and cleanliness it is worth thinking again on where you put the name, over the cab? On the back or side boards? On the cab doors? Who do you want to notice it? A small board, painted back and front, over the cab, is the least likely to get damaged unless you use it for supporting lengths of scaffold tube too long for the body! The cab doors are also a good place for the name. Incidentally a van is a far better way of advertising, and easier to keep spick-and-span than a lorry and almost worth investing in for this alone. Shove on the back of it 'Service Van' and people will think you are quite an outfit. Last week I saw a well-known builder's van with 'Public Relations Department' written on the side. I felt like scrapping this Paper.

"In so far as plant is concerned you will not expect me to avoid leading with my chin and saying for heaven's sake wake up to the effect that rusty scaffolding, filthy mixers and mediaeval site hovels have on the passing public. I assure you that this is not big money, for you will save in maintenance and repair costs in your own yard if you look after the stuff on your sites.

"Building it not a clean and tidy occupation but nevertheless the public are discerning in their judgment of tidiness and will often chalk up a few competitive points to the man whose site is ship-shape.

Telephone and Letter

"If the first contact between the building firm and the public is on the street the second is either by telephone or letter. Has it ever occurred to you how important might be that first telephone impact? That nutrigrating voice on the receiving end of the inquiry which might lead to a job? That offhand manner, that interminable wait while the nutrigrater finds out whether Mr. X is in, followed by a minor inquisition on the purpose of the call? These and others like them are the things that form the first impression of a firm and its effectiveness: it might take months to live down the nutrigrater's little welcome. To start with 'Good morning, X and Sons, can I help you?' costs little if anything and establishes the right atmosphere over the wire, and a follow up by making sure the caller is looked after by someone (and not left surmising whether he has been cut off) even if Mr. X has not turned up at the office yet is not asking much either.

"The outgoing call is as important as the incoming one. To a busy man, hanging on the phone is purgatory, especially when he is on the receiving end of the call and three different voices have asked him if he is Mr. Q. If he has not burst a blood vessel or put the phone down altogether he will certainly be 50 per cent. cooler in his conversation when the caller does eventually get to him. Remember that when you ask your secretary or switchboard to get a client on the phone for you. Even a gentle word such as 'Sorry to have got you on the phone first' helps to mitigate the pause. In brief, telephone procedure is an important public relations factor.

"As for the letter, this I suppose depends to a large extent on the idiosyncrasies of the recipient, but speaking personally I set great store by any form of communication. There are two points concerning letters I would make here. First, your letter-heading is as important if not more important than your nameboard. Cheap paper and a cheap heading does not indicate a cheap builder in the economic sense. But here a word of warning and it concerns Bentleys as well as letter-headings. The most difficult thing in business selling is to strike the balance between showing your customer you are successful and frightening him off by your opulence. But above all do not give

the impression of failure or shabbiness.

"The second point about letter writing concerns layout and spelling. Enough said. I am sure you will agree that assuming the recipient can himself read and spell, an illiterate letter on cheap paper is unlikely to impress. It goes without saying that courtesy, not slim servility, at all times plays a part in public relations, and if somebody writes you a letter he expects at least an acknowledgement reasonably promptly and not 'Dear Sir, No. Yours faithfully.'

Reception Procedures

"What about your reception procedures for visitors? I know one client who was influenced in his decision not to negotiate a very large contract with a well-known builder because of the shocking condition of his waiting room. It has been said elsewhere with some truth that one of the most important operations in a new building is the painting of the inside of the door of the directors' lavatory. They will judge, and have time to judge, the whole standard of finish from this little bit of paintwork."

Into Homes

Mr. Trench pointed out that for those who go into people's homes to work the N.F.B.T.E. had already produced some excellent leaflets: "You and Your Client," "The Care and Maintenance of Your Property" and "So You're Having the Builder In."

Gifts

Discussing the age-old habit of sending gifts at Christmas time Mr. Trench said: "Let me start with business Christmas cards. This is a nice friendly habit but a little negative in that business Christmas cards are generally sent as a reminder of the business's existence. As I say, a friendly habit, but purely from a mercenary point of view not likely to achieve much result *unless*, and I underline *unless*, the card is so outstanding that the recipient cannot resist drawing the attention of his friends to it while it stands in the front of 500 of your competitors' cards on his mantelshelf. If you can produce that sort of card you are on a winner. If you have any intention of sending this sort of reminder of your existence then spend some time in deciding what in fact will be a winner. Robins and candles are strictly out.

"Next come the diaries and calendars. The same maxim applies. Unless the diary is going to be used (and not passed on for a Godson's Christmas stocking) and the calendar placed in a position for others to see, you might as well send that Christmas card. It is extremely difficult in this day and age to produce a diary or a calendar which is so original that you can be sure of it taking pride of place among those sent by your competitors. Better perhaps send a greetings telegram—at least it is likely to be looked at. I know one man who sent a pot of flowers in the company's colours to the wives of his customers.

"These little momentos, however, at least have one thing in common, namely, that the sender can hardly be accused of bribery or of giving a reward for services rendered although admittedly the mere sending of them sometimes stems from the desire to influence rather than from more Christian motives. And so to the boxes of golf balls and the bottles of whisky. This custom is questionable, but for the life of me I can't see how we can put an end to it. There is no doubt whatever that there are some people who are in a position to dish out work and who are most decidedly influenced in their patronage and favours by the gifts they receive from builders at Christmas. At least this should not be so among professional men whose code of conduct should preclude them from this sort of activity—but does it? And if builders look down their noses at architects who accept presents, what about the builders' buyers themselves? Is this habit growing? If it is, somebody ought to blow the top right off it for to

my mind it is public relations of the worst possible kind.

Entertaining

"The entertaining of customers is not new, and is now an established way of business life. Far from me, a minor expense account man, to give advice to the perpetrators of weekends in Le Touquet or sumptuous cabin cruisers in Blackpool Harbour, but I am entitled to my views. Entertainment done properly (and I personally believe that a dinner party at home is worth two at the local hostelry) is of real public relations value, but again beware of overdoing it. The victim of the entertaining is worth studying for there are quite a few on whom lavish entertainment might have quite the reverse effect to that designed. Nor is there any reason why one should not make personal friends of one's business acquaintances. They often turn out to be the best of friends once the doubting stage has been passed as to whether it is all being done 'for business or because he likes me.' The social function of the trade association plays its part in this. The firm's own social function is a sound form of public relations which few could take amiss, and apart from the honoured guests it is worth remembering that every one of your staff has a public relations job to do of his own. He or she tells stories about the firm, and these stories can be good but they can be harmful. If you expect your staff to do public relations for you, you must also do a public relations job on the staff.

Indirect P. R.

"The indirect public relations advantage of such activities as maintaining contact with the parents of apprentices and trainees and the taking of architectural students on building jobs during their summer vacations should not be underrated. Nor should the outside activities of you and your staff. I do not believe that it does any builder any harm to participate in local affairs whether they be connected with the local council or the local technical college. In fact I think it is to his own as well as the community's benefit that he should do so. This goes for his staff as well, and on a narrower front could range from the local cricket club to, well, just the local.

"The whole subject of outside activities would be incomplete if no mention was made of those very important public relations apostles, the Ladies. I know gruesome stories of how businesses have gone broke because of the boss's wife, not because she spent too much on hats, but because she not only refused to accept she had any part to play in the business, but went out of her way to be unpleasant to her husband's business acquaintances. Wives indeed can play a vitally important part in a firm's public relations, and having said that I shall leave it there.

"The House Magazine, again remembering that all your staff are your public relations hot gospellers, can play its part in the firm's sales policy, but to those thinking of investing money in this activity I would say leave it alone unless you are going to do it well, and to do it well needs a fair amount of money. The magazine which is obviously pushed for news, mentions one new contract over the last few months and has columns of staff resignations or deaths is not a good vehicle for sales. The brochure to celebrate the 50th anniversary, however, can be made into a good piece of public relations although it lacks one essential of good publicity, namely continuity, and it is here that the house magazine well presented and distributed to customers past, existing and potential, is an advantage. A news sheet to more restricted circulation is also worth considering.

The Press

"This naturally brings me to the Press: those very important people who can influence the public so greatly. Advertising is of course part of sales, but it is not my intention to dwell on this particular aspect.

(Concluded on page 495)

1,120-TON TUBULAR STRUCTURE TO BE SITED OFF DUNGENESS

Tow by Tugs from Folkestone

AT any time now, when weather and tide conditions are favourable, three deep sea tugs and two attendant vessels from the Dutch company, Smit, of Rotterdam, will approach Folkestone Harbour to take in tow a 1,120-ton tubular steel structure which has been built on the harbour bed by Sir Robert McAlpine and Sons, Ltd.

The structure will be floated out of the harbour and towed some 15 miles to a point 1,000ft. from the shore at the site of the Dungeness nuclear power station, where it will be lowered on to the sea bed and permanently fixed eventually to stand astride the station's cooling water tunnel.

The sole purpose of the structure is to provide a working platform from which to plug the tunnel when the breakthrough is made from beneath the sea bed. It will remain permanently as a marker and to be used for unplugging when tunnel maintenance is necessary.

This method of providing the water intake structure might be thought to be a troublesome one, but it is certainly less

oil drilling rigs used in Texas, except that they are temporary structures with tubular legs standing on the sea bottom, whereas this tower will be made permanent by driving the legs into the sea bed.

The tower comprises two octagonal working platforms carried on a tubular structure measuring some 90ft. across and 75ft. from base to deck level. It has three horizontal frames of 18in. diameter with braces and diagonals of the same diameter. Twelve 33in. diameter steel tubes will form the legs.

All the joints have been sealed to prevent internal corrosion and the flanges machined, the entire structure being made to a very fine tolerance. The two platforms at intermediate and top level are provided for maintenance crews, and are steel-decked with interconnecting ladders and safety handrailings.

The tower will be secured by means of 12 cast steel 84ft. screw type piles, which fit inside the legs of the structure. A further 57ft. length of mild steel tube has been welded to the top of each pile. The mild steel tube is castellated at the top end, into which special hydraulic boring

pile screwing gear, derrick generators, hydraulics and working equipment, 153 tons; and mooring bollards, ladders and stairways, 25 tons.

Positioning

To make the tower buoyant, four main flotation tanks are attached to the sides of the octagon in guide frames which allow the tanks to rise and fall with the tide until required. They will then be pinned down at their lowest point ready for launching.

The four tanks are completely under control by hydraulic jacks, which can raise or lower the structure at will. Further buoyancy is obtained by the addition of smaller, lighter sectional tanks in the main corners of the octagon. This extra buoyancy widens the choice of tides on which the structure can be floated.

The towing and positioning operation is expected to take 24 to 36 hours. Two markers have been fitted to the tower, one between decks and one on a cabin built above the centre of the top deck, from which the operations will be directed. The actual siting will be done from two theodolites on shore, the tower forming the apex of a triangle. The theodolite stations will be in constant radio contact with the tower cabin. In case of emergency, walky-talkies and Aldis lamps have also been put aboard.

After siting off Dungeness, the 12 piles will be screwed home to a depth of about 50ft. The hollow screw piles will be excavated by means of an air lift pump, then filled with reinforced concrete. The flotation tanks will then be removed.

Once the plugs have been placed above the tunnel, all the equipment on board, with the exception of the derrick, will be removed, and the tower will remain to mark the seaward end of the intake tunnel.

NO SHORTAGE OF BRICKS IN SCOTLAND

From Our Correspondent

The closing down of a brickworks in Lanarkshire in July highlights the Scottish emphasis that any question of shortage of bricks does not apply to Scotland. The reverse is rather the case. Brick manufacturers in Scotland are anxious to make it clear that shortages are in no way representative of Scottish conditions.

In Scotland the position regarding supply and demand is very much the reverse of that applying south of the border. Bricks are immediately available in Scotland and supplies at the end of February amounted to 50,000,000 of stock in yards and stock-premises.

In accordance with the Ministry of Works request, brickmakers in Scotland increased production during 1960; output rose by 7 per cent. as against 1959. Demand did not rise as fully as anticipated and production in recent months has been cut back by many manufacturers. Despite this cutback in production, heavy stocks are still available. The Ministry have been advised regarding this position, and a report was prepared for the Minister setting out the availability of supplies for England from Scottish brickworks.

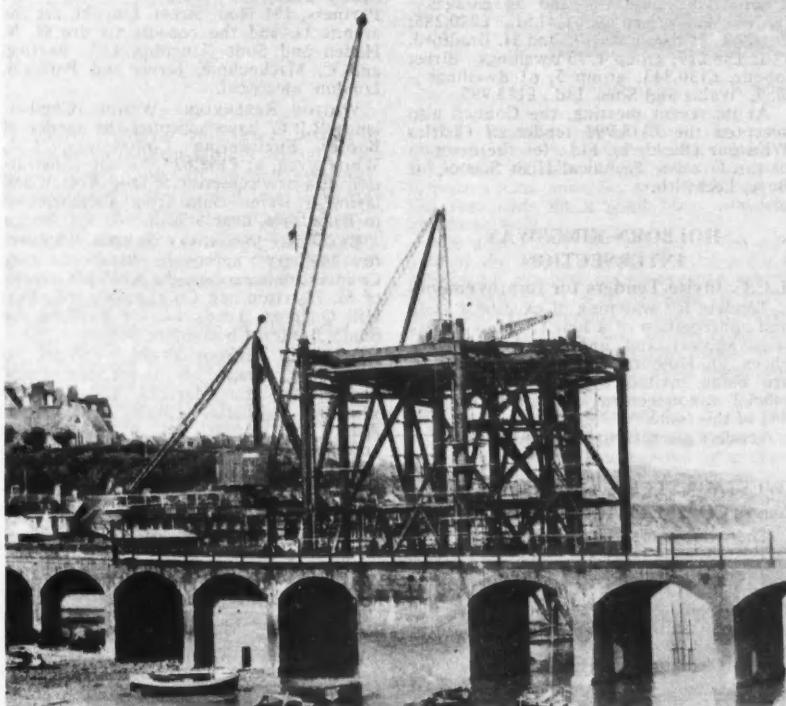
The Scottish Employers Council for the Clay Industries is seeking to increase sales of Scottish bricks to the maximum limit and is planning promotional work to publicise fully the availability of Scottish bricks and their scope in construction work of all types.

The Scottish brickworks which closed down were those of the Airdrie Brick Co., Ltd., of Dunrobin Road, Airdrie, employing some 50 workers.

SANDHURST TO BE REDESIGNED

The War Office have appointed Sir Hugh Casson to redesign the Royal Military Academy at Sandhurst, near Camberley, Surrey, and sketches have been submitted to the Commandant.

Many of the Academy buildings date back to before 1914, and these will be replaced. The "Old Building," however, which was erected in 1812, will not be included in plans.



Intake tower under construction in Folkestone Harbour

risky and less likely to be disastrous than would have been the building of the structure inside a cofferdam. In this part of the Channel there is a depth of 35ft. at low tide and a 20ft. rise and fall of tide, a total of 55ft.

Once the structure has been positioned, work will begin on driving the 13ft. 6in. intake tunnel from the shore end. The plan is to tunnel the 1,000ft. using a shield and to stop-up the tunnel end with concrete. A break-through will then be made in the tunnel roof, using two vertical "push-up" tubes, which will break out again into the bed of the Channel. When the tubes are through they will be stopped up with large plugs, enabling the tunnel workers to break through the tunnel roof into the "push-up" tubes and remove the encased overburden.

The design of the intake tower is based on the same principle as the off-shore

equipment will be fitted. After sinking, the piles will be filled with reinforced concrete.

The steel tubes of the tower were fabricated by Tubewrights, Ltd., and the cast steel piles, which were made up in 10ft. lengths, were made by Head Wrightson Steel Foundries, Ltd. It is believed to be the first time that tubes of this length and size have been made as castings. McAlpine specified this form of manufacture in order that a high tensile steel could be used and to cut down weight by tapering one thickness into another. At the end of each pile there is a 4ft. long screw, 6ft. in diameter, for drilling into the sea bed.

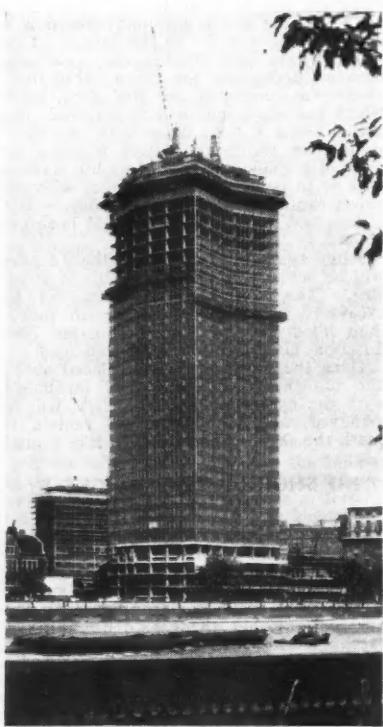
The 1,120-ton weight of the structure is made up as follows: Cast steel piles, 295 tons; tubular structure, 273 tons; buoyancy tanks and fittings, 259 tons; deck steelwork and timber, 115 tons;

TOPPING-OUT AT MILLBANK DEVELOPMENT

THE topping out ceremony for London's highest building—a 387ft. high concrete structure—took place last week.

The 34-storey building is part of the £5m. Millbank Development which also includes an eight-storey office block, a 12-storey block of flats, a three-tier parking garage, conference hall and restaurants.

The tower block is essentially an in-situ reinforced concrete structure and pre-stressed concrete has been used extensively for the floors. The cladding is curtain walling. The main occupiers of the tower block will be Vickers, Ltd., and the topping



Millbank development

out ceremony was carried out by the chairman, Viscount Knollys.

The remaining blocks are also in structural concrete and precast concrete exposed aggregate cladding slabs are being widely used.

The architects are Ronald Ward and Partners and the consulting engineer is Lt.-Col. Kirkland of R. Travers Morgan and Partners. The main contractors are John Mowlem and Co., Ltd.

£900,000 BASINGSTOKE HOUSING CONTRACT

The lowest of eight tenders received, at £912,800, is to be accepted by Basingstoke B.C. for the development of their South Ham Housing Estate. The tender was submitted by J. Anderson and Sons (Building Contractors), Ltd., Orpington, Kent.

A total of 413 dwellings, comprising two- and three-storey flats, houses and bungalows, are to be erected under the contract, which also provides for 264 garages and ancillary service roads and footpaths. The development has been planned under the direction of the borough architect, Eric Almond, Dip.Arch., A.R.I.B.A.

STAFFORDSHIRE ARCHITECTURAL STAFF SHORTAGE

Because of shortage of staff in the architectural department, Cheadle (Staffs.) R.D.C. will appoint private architects to prepare plans for a new housing estate at Tean.

TENDERS FOR DUNDEE DEVELOPMENT SCHEME

NINE companies are being invited by the Murrayfield Real Estate Co., Ltd., to tender for the first phase of the Overgate development scheme in the centre of Dundee. Estimated to cost £2½m., the scheme provides for a new shopping and commercial centre.

Fifty shops will be erected in the first phase, together with a six-storey office block and a 60-bedroom hotel. The complete scheme includes 93 shops, four department stores and two multi-storey office blocks.

The firms invited to tender are: Charles Gray (Builders), Ltd., Dundee; Bett Brothers, Ltd., Downfield, Dundee; John Wight and Co., Ltd., Grangemouth; James Miller and Partners, Ltd., Edinburgh; A. M. Carmichael Ltd., Edinburgh; Holloways Scottish Constructions, Ltd., Edinburgh; The Scottish Construction Co., Ltd., Edinburgh; A. A. Stuart and Sons (Glasgow), Ltd. and Tersons Ltd., Glasgow.

BIG HOUSING AWARDS AT CARDIFF

Contracts totalling over £650,000 have been placed by Cardiff City Council for housing development on the former R.A.F. site at Caerau.

Some 324 dwellings are to be built in five groups as follows: Group 1, 75 dwellings and 27 garages—direct labour, £148,156; group 2, 92 dwellings and 54 garages—G. E. Wallis and Sons, Ltd., £220,286; group 3, 21 dwellings—J. and H. Bradford, Ltd., £38,219; group 4, 75 dwellings—direct labour, £130,343; group 5, 61 dwellings—G. E. Wallis and Sons, Ltd., £113,995.

At its recent meeting, the Council also accepted the £318,998 tender of Charles Winstone (Builders), Ltd., for the erection of the Fitzalan Technical High School for Boys, Leckwith.

HOLBORN-KINGSWAY INTERSECTION

L.C.C. Invite Tenders for Improvements

Tenders for widening of existing streets and construction of a new street, a pedestrian subway and underground conveniences at Holborn-Kingsway Intersection are being invited by the L.C.C. in an official announcement appearing on page 443 of this issue.

Tenders are returnable by August 28.

WESTMINSTER ARCHITECTURAL COMPETITION AWARD

The winner of the 1,500 guineas first prize in Westminster City Council's architectural competition for the layout and design of a 12-acre housing site at Pimlico is Mr. John W. Darbourne, who is at present attending a post-graduate course at Harvard University.

Mr. Darbourne's scheme provides for 770 dwellings, varying in size from one to five rooms, designed to house people at a density of 198.5 to the acre. The estimated cost is £1,754,088.

USE OF TARMACADAM IN CATTLE YARDS

Problems arising in the agricultural field have found a new and unusual use for a specialised form of tarmacadam. The problem was to drain covered yards which housed cattle. Where a concrete or hard-beaten earth floor was used, drainage of effluent was difficult as it rendered the straw sodden and large quantities of straw had to be used.

Co-operation between the Shropshire Farm Institute and the British Quarrying Co., Ltd., Shrewsbury, led to the trial of an igneous rock being bound with a high viscosity tar, using a specialised grading plus certain additives. This was laid 2in.-3in. thick on the sloping concrete floor of a covered yard. Over a period of two years, a reduction of 7cwt. of straw per cow per year has been found.

Late Construction News

VAUXHALL MOTORS FACTORY CONTRACT. —*The Contract Journal* understands that a contract is to be placed with Sir Alfred McAlpine and Son, Ltd., Hooton, Little Sutton, Wirral, Cheshire, for the construction of the new factory at Hooton Park, near Ellesmere Port, Cheshire, for Vauxhall Motors, Ltd. The architects are Howard Fairbairn and Partners, the quantity surveyors G. D. Walford and Partners and the consulting engineers G. A. Dodd and Partners.

£4M. LEEDS DEVELOPMENT. — Selected contractors will be invited to tender in September for the erection of the £4m. Merrion Centre at Leeds. The centre will include 14-storey and five-storey office blocks, 97 shops, a dance hall, a 100-room motel and a multi-storey garage for 1,000 vehicles. Town Centre Securities, Ltd., Leeds, are the promoters. Gillinson and Barnett, 8 Queen Square, Leeds, 2, are the architects, and the consultants include: Wakeman, Trower and Partners, quantity surveyors, St. Paul's House, St. Paul's Street, Leeds, 1; W. V. Zinn and Associates, consulting engineers, 3 Chepstow Street, Manchester, 1; Kenneth B. Firth, services engineer, 25 Albion Place, Leeds, 1.

TRAINING COLLEGE EXTENSION. — Bills of quantities will be sent shortly to selected contractors for them to tender for extensions to the Diocesan Training College, Lincoln. The work is estimated to cost nearly £120,000. Watkins, Coombes and Partners, 191 High Street, Lincoln, are the architects, and the consultants are G. N. Haden and Sons (Lincoln), Ltd., heating, and C. Mackenzie, Jarvis and Partners, London, electrical.

WIGTON RESERVOIR. — Wigton (Cumberland) R.D.C. have accepted the tender of Border Engineering Contractors, Ltd., Whitehaven, at £148,624, for the construction of a new reservoir at Low Aketon and laying a water main from Fletchertown to Balladoyle, near Silloth.

BRADFORD SECONDARY SCHOOL. — Subject to Ministry approval, Bradford City Council are to accept the £345,856 tender of M. Harrison and Co. (Leeds), Ltd., Post Hill Quarries, Leeds 12, for building the South Bradford Secondary School.

MARCONI HEADQUARTERS. — Work is about to commence on the erection of new headquarters for Marconi, Ltd., on the Widford Industrial Estate, Chelmsford, Ashby and Horner, Ltd., 69 Bishoptsgate, London, E.C.2, are the contractors for the work, which is estimated to cost £279,000. Plans are by F. J. Taylor, Son and Bracken, 20 London Road, St. Albans, and the quantity surveyors are Price and West, 47 Beech Street, London, W.I. Lowe and Rodin, 171 Victoria Street, London, S.W.1, are the consulting engineers.

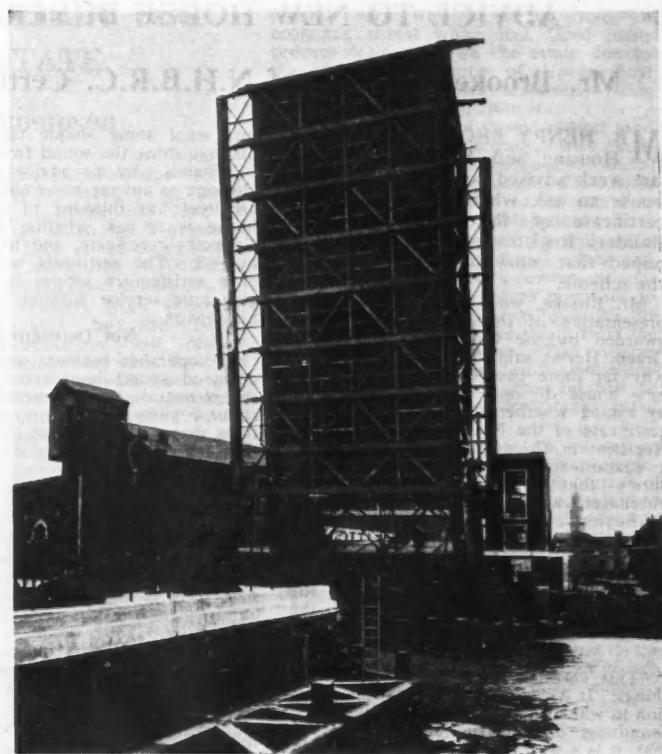
£475,000 HEINZ EXTENSION. — A. Monk and Co., Ltd., Padgate, Warrington, have been awarded a £475,000 contract for building a new warehouse at Kitt Green, near Wigan, for H. J. Heinz Co., Ltd. The warehouse will be a single-storey structure, 591ft. by 321ft. on plan, and 32ft. 6in. high. Construction generally will be in tubular steel lattice girders supported on steel columns, with brick cladding. Completion is scheduled in 12 months.

LIVERPOOL SCHOOLS. — Two contracts, totalling £832,675, have been placed with Morrison and Sons, Ltd., Grange Terrace, Wavertree, Liverpool, by Liverpool City Council. They are for the erection of the Highfield and the Anfield Comprehensive Secondary Schools.

SHEFFIELD SCHOOL CONTRACT. — Sheffield City Council have negotiated a contract with J. F. Finnegan and Co. (Sheffield), Ltd., 847 Eccleshall Road, Sheffield, 11, for the erection of the Park House Secondary School, Tinsley. The cost will be £254,510.

SEVENTEEN-STORY DUBLIN BUILDING. — A contract has been signed between the Irish Transport and General Workers' Union and John Sisk and Son (Dublin), Ltd., for building a new 17-storey headquarters at Merrion Square, Dublin. The block has been designed by D. R. O'Kelly, Dublin, and will cost about £600,000.

CONSTRUCTION OF HULL'S NEW ROLLING-LIFT BRIDGE



A general view of Drypool Bridge

A NEW Scherzer-rolling-lift bridge in Kingston-upon-Hull is probably the largest road bridge of its type yet built. Known as the Drypool Bridge, and designed by the City Engineer's Department, it replaces a "bob-tail" swing span which served at this crossing from 1888 until work started on the new project in July, 1959.

The bridge has a span of 105ft. and an overall width of 70ft. A road width of 45ft., compared with the 15ft. 9in. on the previous structure, will do much to improve the flow of traffic through the city. The bridge has also been designed with fast operating speeds to minimise the delay when it is lifted. The 1,400-ton structure can be raised or lowered in either 1½ minutes or 2½ minutes, the slower speed being used when there is a high wind.

The structure rolls back on two quadrant girders carried on track girders supported at the front ends on two cylinders sunk into the river bed and at the rear ends on a piled mass concrete abutment wall.

The nose end of the bridge, at the east side of the river, is supported by a fixed reinforced concrete approach span which is of open piling with decking of beam and slab construction. The machinery houses on the west side of the river are of steel-framed construction faced with brickwork and carried on piled mass concrete foundations.

First Operation

In erecting the new bridge the first operation was the construction of a cast-iron lined tunnel for the accommodation of mains cables and services crossing the river, at a depth of 68ft. below ground

level. Cofferdams were then driven and the main river piers were constructed in free air to a depth of 50ft. below high water. Simultaneously, the east tunnel shaft was sunk and the tunnel driven westward to join up with that portion driven from the west side. A cofferdam was then constructed for the mass abutment wall on the west side.

The main span required the cofferdam to be approximately 96ft. long and 36ft. wide and excavation was taken down to a depth of 30ft. below river bed. The mass concrete wall was founded on reinforced concrete piles.

After the founding of the river piers and west abutment walls, the fixing and levelling of the track girders took place. The quadrant girders and ballast tank were then erected, followed by the erection of the main span steelwork and the placing of sufficient ballast in the tank to keep the bridge in approximate balance while erection continued. The whole of this work was carried out with the bridge in the vertical position.

Simultaneously with the erection of the main span, work proceeded on the east side of the river. This involved strengthening the original abutment wall, of piling, and the construction of the reinforced concrete fixed approach span.

Approximately 6,000 tons were moved in excavation, 9,000 tons of concrete were placed, 11,600ft. of reinforced concrete piles were driven to give a firm foundation to the bridge and 4,320ft. of protective piles were driven.

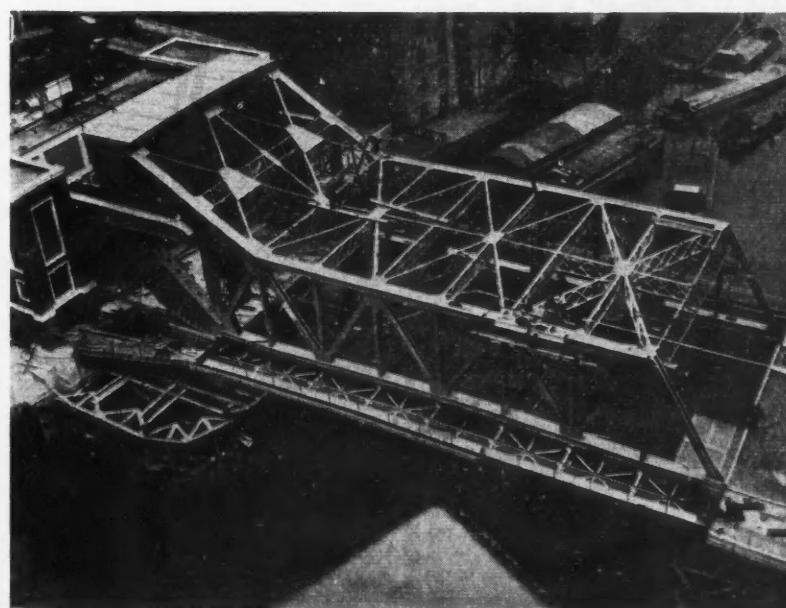
Aluminium Decking

Aluminium has been used for the bridge decking (some 40 tons of aluminium plate and section being supplied by Alcan Industries, Ltd.).

The decking is arranged in eight transverse bays between steel cross-girders. Each bay is made up of five prefabricated panels measuring 9ft. by 11ft. 6in. The weight of each panel is only about 2,000lb. and in consequence they presented few handling problems during erection.

The panels are made up as follows: a series of trough sections in Noral alloy B51SWP (BSS.1476 HE30WP) are first riveted together to form a corrugated profile 7½in. deep with a pitch of 9in. Next,

(Concluded on page 470)



The bridge shortly before its completion

ADVICE TO NEW HOUSE BUYERS

Mr. Brooke on Value of N.H.B.R.C. Certificate

MMR. HENRY BROOKE, Minister of Housing and Local Government, last week advised people buying a new house to ask whether it carried the certificate of the National House-Builders Registration Council, and he hoped that more builders would join the scheme.

Mr. Brooke, who was speaking at the presentation of the 150,000th certificate awarded by the Council, at Leverstock Green, Herts., said, "I cannot understand why far more people who are buying a new house do not safeguard themselves by asking whether the house carries the certificate of the National House-Builders Registration Council. That certificate is a guarantee of sound construction, and surely that is just what the house-purchaser wants."

"Buying a house may well be far and away the biggest financial transaction a man has ever entered into. He wants to be sure that he is not being let down. Yet he cannot possibly have watched all the construction of the house or seen all the materials that have gone into it."

A Warranty

"This certificate is a warranty of two things. It is a warranty that the specification to which the house was built indicated soundness of construction. More than that, it is a warranty that the specification has been adhered to and that the work put into the house at all stages of construction has been up to standard. The Council inspects the house as the building work is in progress, and only if it is wholly satisfied with the house as a good job will it issue its certificate. Not only that, but the builder who takes part in the scheme undertakes to make good at his own expense any defect which may come to light within two years arising from a failure to comply with the required standards."

Later in his speech Mr. Brooke went on, "I am well aware that there are good houses being built which do not carry this certificate, but how is the purchaser of them to know that they are good? If of course he is well enough off to employ his own architect, then he does not need this protection by way of certificate. But most people do not employ an architect, and

just want some simple certain test for distinguishing the sound from the shoddy."

"That is why my advice as Minister of Housing to anyone not employing his own architect but thinking of buying a new house is to ask whether it carries the Council's certificate, and to refuse to be put off. The certificate is his assurance of a satisfactory job—a house that will give long service without heavy expense for repairs."

Not Derogatory

"I hope that builders who are putting up good sound houses but have so far stayed outside the scheme will now think about coming in and joining it. Some of them may call it a waste of time because they can sell their houses without it. Some may even think it derogatory to let anyone inspect their houses while they are going up. To that I can only say that very famous building firms belong to the scheme and do not think it derogatory."

"Extension of this scheme is not only in the interests of house purchasers; I am sure it is in the general interest of the building industry as well. The quicker that all the good builders are gathered together within the scheme, the sooner the black sheep who do harm to the credit of the industry will be exposed for what they are."

LONDON TOWER CRANE COLLAPSE

A new mobile tower crane collapsed last week during course of erection at George Wimpey and Company's site at Bishop's Bridge Road, Paddington, London, injuring five workmen.

The crane, which at the time of the incident had reached 50ft. in height, was being erected by experienced men and at the time of writing the cause of the accident is unknown.

MOTORWAY BRIDGE CONSULTANTS

The consulting engineers for the six major bridges on the Motorway from Birches to Verner's Bridge in County Armagh, Northern Ireland, are Robert F. Earley and Partners, 39 Victoria Street, London, S.W.1.

£2½M. DEVELOPMENT FOR LEICESTER

PLANS have been announced by Grosvenor House (Park Lane), Ltd., for developing an island site of just over an acre in the centre of Leicester by building a 210-room hotel with 10 shops, a 20-storey office block with 80,000 sq. ft. of lettable accommodation, and an underground garage for 300 cars.

The project, which will take about three years to complete, is expected to cost in the region of £2½m., including acquisition of the site and the interior decoration of the hotel. It is hoped that work will begin on clearing the site during the summer of 1962.

The triangular site, which is on the new ring road, is in a commanding position overlooking the two major shopping centres of Granby Street and Charles Street. Its principal frontage faces on to George Street while on its other sides it is bounded by Campbell Street, Fox Street, and Northampton Street. The developers, who will shortly submit their plans to Leicester City Council, have agreed to purchase the freehold of the site. Knight, Frank and Rutley are acting as the developers' agents in conjunction with Andrew and Ashwell of Leicester.

Discussions on the preliminary plans have taken place with the city surveyor, Mr. John L. Beckett.

Hotel and the Office Block

The T-shaped hotel (in all 11 storeys high) will rise from a two-storey podium which will connect it with the rectangular office block. The hotel will be a mixed development with 10 shops on the ground floor.

A restaurant for 200 people, a ballroom to accommodate 600 shops, bars, and a coffee-house will be situated in the podium, while the hotel's suites and bedrooms will be arranged on seven higher floors. A special feature of the hotel's design will be the penthouse suites on the terraced roof-floor, 120ft. above street level, which will be used for showrooms in which manufacturers can display their products. These stock rooms or showrooms have been specially designed to enable manufacturers to attract international buyers.

The architects for the project are R. D. Russell and Partners, 28 Little Russell Street, London, W.C.1.

(Concluded from page 469)

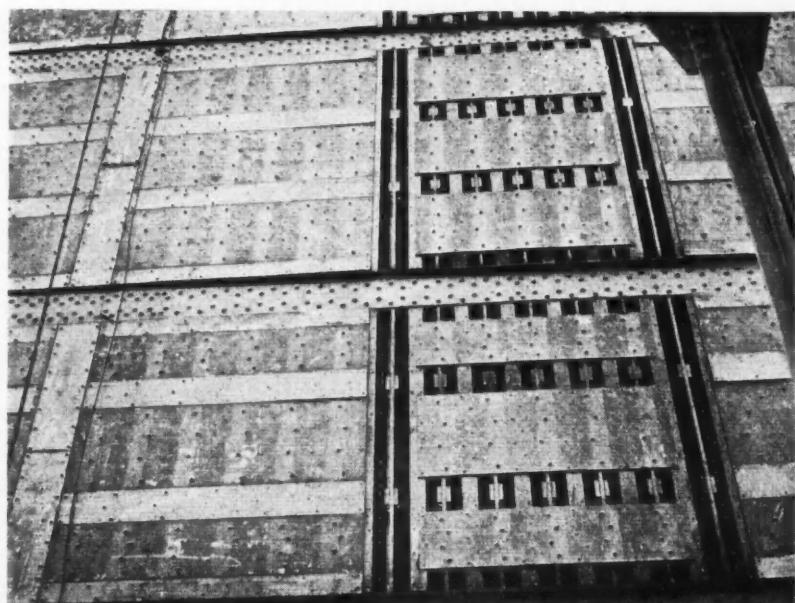
I-beam stiffeners, also in Noral alloy B51SWP, are fastened longitudinally in each trough on the upper side. Fastening cleats for this member are cut from a special extrusion and are riveted to the web of the beam and to the trough section. The prefabricated panel is completed with three $\frac{1}{8}$ in. plates which are bolted and riveted in position on the upper surface. They do not cover the whole panel in order to allow access for the final assembly.

After the panels have been bolted into position the deck is completed by fixing the remainder of the plates.

Additional protection has been provided by painting all the aluminium components with a bituminous paint. Strict attention has also been given to preventing bimetallic corrosion where steel and aluminium are in contact.

A 1 in. deep aluminium hexagonal mesh is laid on the deck as a key for the road surface. This surface is a hard laid mastic asphalt in two layers: the first, of pure asphalt, fills the mesh, while the second layer, which has precoated chippings rolled in, brings the overall surface depth to $2\frac{1}{8}$ in.

The main contractors for the erection of the new bridge were Dews of Oldham. Samuel Butler and Co. (1960), Ltd., Stanifield, were responsible for the structural steelwork, and Geo. Houlton and Sons, Ltd., Hull, for building work.



Part of the aluminium deck

CENTRALISED STEAM-GENERATION FOR WELSH INDUSTRIAL ESTATE

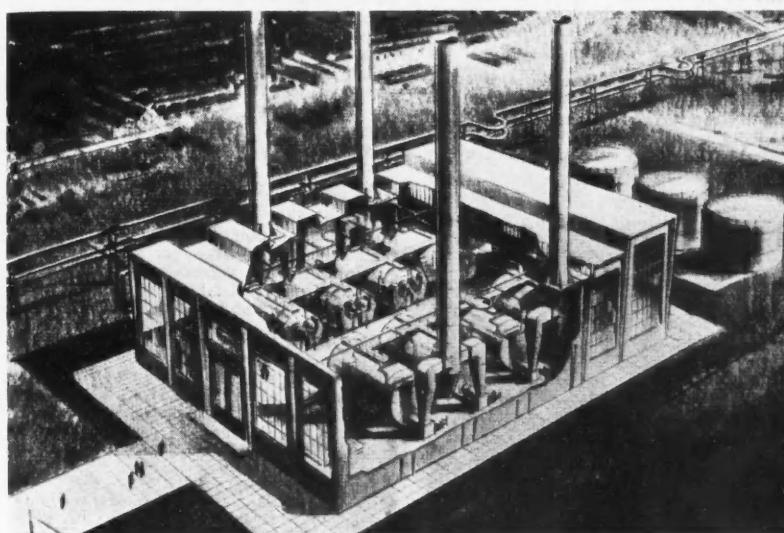
Contract Awarded to John Thompson

A STEAM raising plant which will probably be the largest of its type in Europe, providing a large steam output for industrial space heating and processed by a multiple installation of large shell-type boilers, is to be built for the Industrial Estates Management Corporation for Wales. Steam will be supplied from a centralised source to some thirty-four factories on the Treforest Industrial Estate, near Pontypridd.

The plant for which the contract has been placed with John Thompson (Wolverhampton), Ltd., will comprise eight

oil-fired Super-Economic shell type boilers, with superheaters to meet a maximum station demand of about 200,000lb. of steam per hour at 250lb. p.s.i. pressure, and 600 deg. F. Each of the eight boilers has a capacity of more than 30,000lb./hr., with a standby for all load conditions.

This supply of steam from a central boilerhouse operated by the Estate Management Corporation will replace present arrangements under which factories on the estate are supplied with steam from the Upper Boat Power Station operated by the Central Electricity Generating Board. In so doing, the new system of supply will



Artist's impression of completed plant

BOOK REVIEWS

Public Cleansing—Present and Future by A. G. Davies, M.A.P.H.I., M.Inst.P.C., Publishers, E. and F. N. Spon, Ltd. Price 40s.

Public Cleansing literature has been more liberally served by articles and papers than by full length books, so this newcomer has few rivals with which it might be compared. Its quality is such that it need fear no comparison, which is due to the fact that the author was able to draw on a wealth of personal experience as a cleansing officer and a technical writer and because he has been an observant traveller.

Mr. Davies has rightly chosen to restrict his work to a description of the means whereby refuse is collected and treated. This curtailment is more than compensated for by the inclusion of text concerned with the law and administration which any cleansing officer of greater stature than Messrs. Doolittle and Boffin must be familiar, and with public and industrial relations. This last named activity is of extreme importance as the refuse collector leads a hazardous life for small reward and cannot expect his efforts to be appreciated by "perks" during his fully active life nor a lighter job when he has passed his peak.

If one may single out any sections for special appreciation it is those which deal with vehicles. Here the author has set out the potentialities and limitations of each type. Finally, the author has chosen the best time of life to write, namely during that period by which he has amassed and processed a significant amount of

knowledge and whilst he has resilience to entertain new ideas and set them realistically alongside tried and trusted conceptions.

Impact Testing of Materials, by W. Späth (revised by M. E. Rosner), Thames Hudson. 25s.

Dr. Späth is widely known as a prolific author of books and papers and as a research worker of great originality and discernment. In this book will be found the reasons for the esteem in which the author is held, namely an idea which is tested and developed by apparatus and techniques instituted by Dr. Späth, and the interpretation of the results so obtained. The idea is that as in practice materials are subjected to shock as much as to simple tension or compression, it is realistic to reproduce this condition and to deduce means of evaluating the results noted on the imposition of such a condition. In order to assist the process of testing, the author invented and developed a machine.

Accounts are given of tests on tool steels, plastics, and sintered materials, and comparisons are set out between the observed and theoretical results.

To your reviewer, the book opens up a new field of study, and it is commended not only on that score but because the arguments are set out lucidly, and whilst the author is desirous of carrying his readers with him, he is content to woo them reasonably.

provide very welcome relief from an economic threat which had faced many process-steam users on the estate due to the changing economy of Upper Boat Power Station and the necessarily rising cost of steam supplied from it.

Obsolescence of the power station (and its comparative inefficiency, with consequent diminishing use in the grid system) had made it impossible for the C.E.G.B. to continue to supply steam to the estate at an economic and acceptable price.

The new boilerhouse will be built on a site adjacent to the industrial estate and in a position which allows convenient connection of supply and return pipework to the existing pipework system by which the factories at present receive steam from the Upper Boat Power Station. The building will be of modern design, with aluminium-sheeted steel chimneys. Fuel oil will be stored in three cylindrical tanks sited nearby.

As an aid to smoke control, as well as efficiency, the comprehensive instrumentation of the plant will include the fitting of smoke density recorders and indicators to each of the four chimneys. Another feature which is aimed at maintaining efficiency in the operation of the plant is the employment of base-exchange water treatment equipment to treat the make-up feed water.

Whilst the plant is designed to deal with all foreseeable increase in steam requirement up to 1965, provision is made in the boilerhouse design for the addition of two further boiler units of similar capacity when the need arises.

WILLIAM PRESS AWARDED £234,000 CONTRACT

Petrofina (Great Britain), Ltd., have awarded a "package" contract to William Press and Son, Ltd., for the design, supply, erection and commissioning of distribution facilities, and doubling the storage of FINA products at Sunderland. This part of the contract is valued at £234,000.

Seven large overground tanks are to be built with full facilities for marine bunkering and road and rail loading, together with an administrative building, on the site at Corporation Quay.

Hot Water Supply—Design and Practice, by J. J. Barton, Newnes. 25s. net. 128pp.

Defects in a hot water system are at once apparent to the occupier of premises, whose retort to a diagnostician (of whom the building industry is never in short supply) is "Why was such an obvious thing not catered for in the beginning?" A fair query, but one which the disappointed householder does not pose to himself when he has caused to be connected to a small back boiler a range of radiators in addition to the sink, w.h.b., and bath, and finds that tepid baths and ineffective boilers are the new order of the day!

In this book, the author caters for those who wish to know how a heating system works on a quantitative basis, but who have no intention of becoming enmeshed in tangles of theory or statements of the diminution of practice. Presentation is in the form of fully worked examples for buildings which include a school, a sports pavilion and a bungalow.

Whilst it is evident that the book is not of a comprehensive nature, it must be conceded that the limitations of range and extent of treatment are imposed by the author, and that unless one aspires to specialist rank, this book is preferable to many of the established works on its subject.

BOOKS RECEIVED

Modern Printers Year Book and Directory of Suppliers, 1961. Publishers, Bendles (Torquay), Ltd., 15-16 George St., Torquay, Devon. Price 6s.

Men and Movements

TWO new appointments have been made by Holman Bros., Ltd. **Mr. W. J. Ford**, M.I.Prod.E., A.I.Q., manager of the company's Welsh office at Cardiff since 1955, has been appointed to take charge of the North Midlands office at Sheffield. Mr. Ford joined Holman Bros. as a service engineer in 1935. He was assistant to the manager of the East Acton branch from 1940 until 1950, when he established the



W. J. FORD

A. M. GERIG

East Anglian branch office at Peterborough. **Mr. A. M. Gerig**, Holman Bros. representative at Swansea, has been appointed manager of the Welsh office in succession to Mr. Ford. Mr. Gerig joined the firm from Consolidated Pneumatic Tool Co., Ltd., in 1944.

Mr. W. A. Matthews, A.M.I.Mech.E., has been appointed chief engineer to Goodenough Pumps, Ltd.

Mr. J. B. Owen and **Mr. P. Newsome** have been appointed to the board of Alan S. Denniff, Ltd.

Mr. F. Taylor, chairman of Taylor Woodrow Group, was among passengers recently disembarking from the Queen Mary at Southampton.

Succeeding the late **Mr. W. Storey** as a director of John Hinchcliff and Son, Ltd., is **Mr. Kenneth Storey**.

Following the reorganisation of their sales territories by the Desoutter group, **Mr. K. F. Tunnicliffe** has joined the Midlands staff, in addition to **Mr. M. Giles**, **Mr. M. H. Jones** and **Mr. D. W. G. Smallwood**, operating from the Birmingham office. In the north-east **Mr. E. Machan** has replaced **Mr. J. Fox** who has transferred to north-east London to take over from **Mr. C. L. Startup**, who has retired. A further new appointment is **Mr. P. C. Bottin**, who will be responsible for the central London area.

Newly elected to the board of Tunnel Portland Cement Co., Ltd., is **Mr. J. A. D. Thom**.

Bowmaker, Ltd., have made the following appointments: **Mr. H. Edwards**, formerly Sheffield branch manager, is appointed manager at the Wolverhampton office; **Mr. M. Wallace**, formerly sub-manager at Middlesbrough, becomes branch manager at Sheffield; **Mr. J. S. Tunbridge**, formerly resident representative, is promoted to sub-manager at Measham office; **Mr. R. K. Patterson**, is promoted from sub-manager to branch manager at Taunton office, in succession to **Mr. D. J. Clark**, now retired; and **Mr. D. C. Button** has been appointed resident representative of a new branch at Colchester.

Mr. M. R. Porter has been appointed to the post of landscape architect with the Ministry of Transport.

Mr. F. J. Everest, M.Sc., M.I.Mech.E., has been appointed director and general manager of Stein Atkinson Vickers Hydraulics, Ltd.

The Council of Manchester University have appointed **Mr. Roy Herman Kantorowich**, B.Arch. (Witwatersrand), A.R.I.B.A., A.M.P.T.I., as Professor of Town and Country Planning in succession to the late Professor Clifford Holliday.

Blaw Knox, Ltd., have announced the appointment of **Mr. Edward Goodwin** as engineering manager. He will be in technical and administrative control of the engineering department under the general direction of **Mr. J. E. Conacher**, chief engineer. Mr. Goodwin joined Blaw Knox last November as assistant to the chief engineer.



E. GOODWIN

Mercantile Credit Co., Ltd., have announced that **Mr. D. Pritchard**, previously a representative attached to Chester, has been appointed acting branch manager at Newcastle, in succession to **Mr. H. A. Spilsbury**, who has resigned.

The annual prize awarded by the north-eastern section of the Federation of Civil Engineering Contractors has been won by **Mr. G. R. Smith**, of Billingham-on-Tees. The prize, which is worth £25, is awarded to the best student in the Final Part II of the Civil Engineering Examination at King's College, University of Durham. Mr. Smith has served a five year apprenticeship with Dorman Long (Bridge and Engineering), Ltd.

At a recent meeting of the British National Committee of the Permanent International Association of Road Congresses the chairman, **Major H. E. Aldington**, C.B., M.I.C.E., M.Inst.T., announced his retirement. He is succeeded by **Mr. C. T. Brunner**, M.A., M.Inst.T., director of Shell-Mex and B.P., Ltd. Major Aldington, who was chief engineer of the Ministry of Transport until his retirement in 1949, has had a long association with the British Committee, firstly as vice-chairman and for many years as chairman; he was formerly a vice-president of P.I.A.R.C.

Mr. C. W. Matthewman, chairman of the Trinidad Lake Asphalt Co. (North Western), Ltd., has been appointed a director of Roadstone (Northwest) Ltd.

A number of management changes have been announced by Humphreys and Glasgow, Ltd. **Mr. Godfrey Davies**, who has been sales director, now becomes assistant managing director; **Mr. Roy Withers**, chief engineer, and **Mr. Derek Lennon**, who is responsible for all overseas chemical plant, both join the board; **Mr. Donald Yates**, is appointed an associate director and head of the company's construction department. He was formerly a senior sales engineer in charge of overseas gas plant and all Australian contracts.

MUNICIPAL

Oxford City Council have been recommended to appoint **Mr. Douglas Murray**, their deputy city architect since 1955, as city architect in succession to **Mr. E. G. Chandler**, who has taken up a similar post in the City of London.

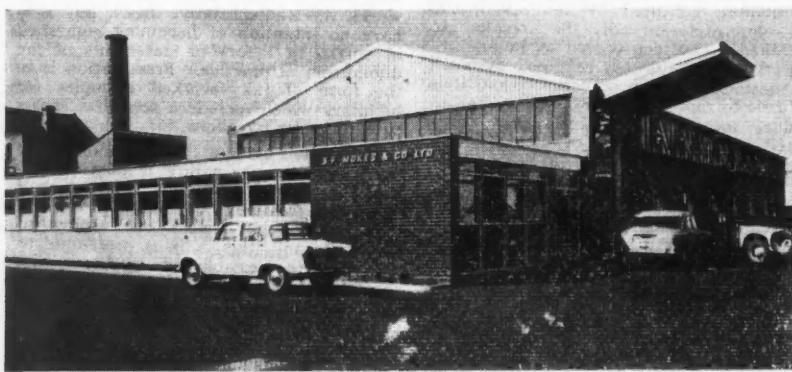
Mr. A. M. Green, at present deputy city engineer at Peterborough, will take up the post of city engineer at Lancaster in the autumn. The new city architect, also taking up his duties in the autumn, will be **Mr. Ernest A. Heppenstall**, at present borough architect at Macclesfield.

After 22 years' service with the Great Ouse River Board, **Mr. W. E. Doran**, chief engineer, will retire next March. His successor will be the present deputy engineer, **Mr. W. K. Masters**.

Mr. R. W. Rose, county surveyor to the Isle of Wight C.C., has been awarded a travel grant by the Ford Foundation for studies in the field of art. He will go to the United States to study town planning and landscape architecture, and is expected to leave about mid-September, for two months.

The new engineer and surveyor to Neath (Glam) R.D.C. is **Mr. Alex Mandeville**, at present engineer and surveyor to Cookham (Berks) R.D.C. He will take up his post in October.

The new engineer and surveyor to Coalville (Leics.) U.D.C. is **Mr. Frank Newton**, previously deputy engineer and surveyor to Cheshunt (Herts.) U.D.C. He succeeds **Mr. R. H. Smith**, who is retiring after holding the position for 24 years.



Sir Harmar Nicholls recently opened this new factory at Rollingmill Street, Walsall, for S. F. Mokes and Co., Ltd., precision engineers. The architects were Hickton Madeley and Salt, Walsall, and the general contractors A. R. F. Godfrey and Co., Ltd., of Wolverhampton

Trade and Company News, which starts on the opposite page, is continued on page 492. Subsequent articles include Talking of Safety by "Dragee" (p.494); A Visit to Hawkridge Reservoir by Municipal Engineers (p.495); Reports of Discussion Groups at Chartered Surveyors' Annual Conference (p.496); London Development Features 21-storey Tower Block (p.496); Work Starts on £24m. Hampshire Brewery (p.497); Land Shortage in Cities—Minister on a Slum Clearance Problem (p.497); G.P.O. Services Extensions at London Airport (p.498); £20m. Tilbury Dock Development (p.498); Cost Saving Lattice Girders in U.S. Office Block (p.499); L.S.M. Guide Forecasts Prospects for British Exports (p.500).

Trade and Company News**A.E.C./MICHIGAN DEMONSTRATION ON
MOTORWAY PROJECT**

CONTRACTORS and engineers in the south of England had the opportunity last week to see the range of heavy-duty rubber-tyred earthmoving equipment marketed by Scottish Land Development Corporation, Ltd., 32 St. James's Street, London, S.W.1. The demonstration was held at Slough where, with the assistance of Mr. D. C. Heath, chief resident engineer, Bucks. C.C. and Higgs and Hill, Ltd., and Richard Costain (Civil Engineering), Ltd., the contractors, S.L.D.C. were able to present their A.E.C. and Michigan machines working under actual site conditions on part of the Slough Motorway contract.

The machines on view included the A.E.C. 10 cu. yd. and 18 cu. yd. Dumprucks and the Michigan 125A and 275A tractor shovels. Michigan 180 and 280 tractor dozers were also at work on spreading and compacting.

The 18 cu. yd. Dumpruk was of special interest. This massive 54,000lb. payload machine is more suited to opencast working, but was shown to effect in the sticky conditions. Powered by the 340-h.p. A.V.T. 1,100 engine, it incorporates twin-ram three-stage tipping gear giving a 70-degree angle of tip in nine seconds. The smaller 10 cu. yd. Dumpruk is powered by the 150-h.p. A221 engine and has a payload of 30,000lb. This machine was more at home in the conditions, having a high flotation and low wheel drag, due to the articulation of the rear bogie.

The four Michigan units on view have the following capacities: 125A tractor shovel— $2\frac{1}{4}$ cu. yd. bucket, 109 b.h.p.; 275A tractor shovel— $4\frac{1}{2}$ cu. yd. bucket, 262 b.h.p.; 180 tractor dozer, 147 b.h.p., 15 tons, 10ft. by 3ft. 6in. blade; and 280 tractor dozer—262 b.h.p., 25 tons, 12ft. by 4ft. blade. The 25A and 275A were used on loading operations, while the 180 and 280 spread and compacted special graded material to fill in a flooded area.



Michigan 180 dozer spreading gravel over the flooded site



A.E.C. 18 cu. yd. Dumpruk at 70-degree tipping angle



This view of the 18 cu. yd. model being loaded shows the tough conditions under which the machines were demonstrated



Loading the 10 cu. yd. Dumpruk



Excavating and loading with a Michigan 275A

Current Constructional Activities

PROJECTS • CONTRACTS • AWARDS

THIS editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the *Journal*.

BUILDING AND DECORATING (See also Housing Schemes)

Aberdeen. — Charles C. Wright, North Eastern Regional Hospital Board, 1 Aleyne Place, Aberdeen, is the architect for extensions at the Huntly Jubilee Hospital for Hospital Board. Estimated cost £60,000.

Ashton-under-Lyne, Lancs. — B.C. recommended to approve outline application for proposed Girls County Secondary School, Wilshaw Lane.

Aylesbury, Bucks. — Co. E.C. have approved scheme for extensions to Aylesbury's County Museum. Estimated cost £4,500.

Ayr. — Dean of Guild Court have approved plans for a new weaving shed at McCall's Avenue, Ayr, for William C. Gray and Sons, Ltd., Newton Carpet Factory. Estimated cost £17,500.

Barnet, Herts. — Co. E.C. have approved and submitted to Ministry for loan sanction, sketch plans for extensions, including a swimming pool, and remodelling of older accommodation at Queen Elizabeth's Girls' Grammar School. Estimated cost £238,000.

Barnsley, Yorks. — (Correction) Sheffield Regional Hospital Board have appointed Charles B. Pearson, Son and Partners, 18 Dalton Square, Lancaster, architects to design the new St. Helen Hospital, and not at St. Helens, Lancs. as stated in our previous issue. Estimated cost £5m.

Basingstoke, Hants. — Co. Planning Committee recommended to approve plans for a secondary modern school at Western Way and two additional temporary classrooms at the Shrubbery Girls' School.

North West Hampshire Area Planning Committee have approved the erection of a temporary classroom at Ecchinswell and Sydmonton School.

Planning Authority have granted outline planning approval for the erection of an old people's community centre at Council Road.

Bath, Som. — F. W. Berford-Smith, architect, Harmony House, Bannerdown, Bath have prepared plans for the erection of a self-contained old peoples' community comprising hostel homes, flats and club on the new ring road opposite Green Park, for City Council. Work expected to commence in the Autumn.

Batley, Yorks. — West Riding C.C. have approved the erection of 13 shops with maisonettes above at Upper Commercial Street, for B.C.

Bedford. — B.C. recommended to approve sketch plans for the erection of Goldington Road Replacement School.

Bedlingtonshire, Northumb. — U.D.C. is preparing, for submission to Ministry for approval, scheme to provide bathrooms and hot water facilities for pensioners living in 30-year-old homes for aged persons at Stakeford and Bedlington Station. Estimated cost £30,000.

Belfast. — Electricity Committee have approved the provision of a sub-station to serve the new oil refinery at Sydenham. Estimated cost £265,000.

Billingham-on-Tees, Dur. — The Yorkshire Bank, Ltd., Infirmary Street, Leeds, are to erect a branch bank at Queensway.

Birkenhead, Ches. — B.C. have approved scheme to provide a building for the Health, Children's and Welfare Departments on a site adjoining the Education Offices in Hamilton Square, at present used as a Corporation car park. Estimated cost £155,000.

Blackburn, West Lothian. — Wheeler and Sproson, Sailors Walk, High Street, Kirkcaldy, are the architects, and James Gentles and Sons, 3 Hill Street, Kirkcaldy, the quantity surveyors, for the new town centre redevelopment for Caledonian Property Investment Co., Commercial Street, Dundee. Estimated

cost £500,000. Work is expected to start in 1962.

Bootle, Lancs. — B.C. have approved for submission to the M.E., scheme for adaptation of school dining hall in Gloucester Road for use as a temporary welfare centre.

Brandon, Dur. — New Brancepeth Co-op Society, John Street, South Meadowfield, propose shop at Oakridge Road, Ushaw Moor.

Brighton, Sussex. — B.C. recommended to approve, in principle, proposals for the future redevelopment of the King's Road/Regency Road area for Taylor Woodrow Group, 10 Park Street, London, W.I., including the erection of a hotel at the junction of West Street and King's Road, an entertainments centre, with restaurant and conference facilities, on the site of the Grand Hotel, and a shopping centre on the south side of Western Road. Russell Diplock Associates, 235 Vauxhall Bridge Road, London, S.W.1, are the architects for the scheme.

B.C. recommended to prepare, for submission to Ministry for planning permission, plans for the erection of the Town Hall and Municipal Offices on the site of the existing Town Hall and adjoining land.

Brighton, Sussex. — B.C. recommended to invite tenders from selected contractors for the construction of a roof car park over the vehicle park at the Wholesale Market, Circus Street, estimated cost £12,500; approve scheme for the modernisation of 50 houses at Queen's Park estate, £16,250; approve plans and invite tenders from selected contractors for the provision of two additional laboratories and ancillary accommodation at Westlawn Grammar School, £13,450.

Town Planning Committee have approved outline application for the erection of a seven-storey office block at 137-139 Preston Road for Factory and Commercial Holdings, Ltd., 36 Wigmore Street, London, W.1.

Bromsgrove, Worcs. — M.E. have approved the erection of the second instalment of the new teachers' training college at Bromsgrove for C.C. Estimated cost £100,000.

Brookmans Park, Herts. — Co. E.C. have approved, subject to Ministry approval, sketch plans for the erection of a new secondary school with a youth wing at Pine Grove. Estimated cost £253,000.

Burnley, Lancs. — B.C. recommended to approve scheme for conversion of the former No. 1 court into an assembly hall with nearby kitchen, store, lavatories, cloakrooms and ladies' powder room. Estimated cost £4,150.

B.C. recommended to approve the conversion of Town Hall basement for use as a Civil Defence sub-area control headquarters. Estimated cost £5,500.

Burton-upon-Trent, Staffs. — B.C. recommended to appoint R. J. Soper, 122 Ealing Village, Ealing, W.5, as consultant for the central area redevelopment scheme.

Bury, Lancs. — B.C. recommended to approve plan for erection of a new fire station on the site of the present building in The Rock.

Bury St. Edmunds, Suffolk. — Co. E.C. have approved plans for St. Edmunds County Grammar School for Girls and erection of a pair of Terrapin classrooms at Ixworth Modern Secondary School. Estimated cost £216,000 and £3,000 respectively.

Standing Joint Committee have approved the erection of police divisional headquarters. Estimated cost £148,600.

Cannock, Staffs. — Co. Health Committee recommended to approve plans for a junior training centre and hostel for mentally handicapped children. Estimated cost £31,750 and £24,240 respectively.

Chatham, Kent. — B.C. recommended to proceed with scheme for the erection of eight garages at the junction of King Street and Cross Street.

Chester. — A. C. Bennett, of Douglas Minshull and Co., architects, 6 Abbey Square, Chester has prepared plans for the erection of a new science block and enlargement of the assembly hall, library and music rooms at Queen's School. Estimated cost £75,000.

Chesterfield, Derbys. — R.D.C. have approved scheme for the conversion and alteration of The Limes for use by the public health department. Estimated cost £7,600.

Chester-le-Street, Dur. — Alterations are proposed in Front Street for the Midland Bank, Ltd. The architects are Cordingley and McIntyre, Owengate, Durham City.

Chigwell, Essex. — Trustees of the Estate of Mrs. S. E. Davies have submitted to U.D.C. for approval application for the erection of three blocks of 15-storey and one block of four-storey flats at Ardmore Lane, Buckhurst Hill. Graham and Baldwin, 3 Roymond Buildings, Grays Inn, London, W.C.1, are the architects for the scheme.

Chippingham, Wilts. — B.C. recommended to invite tenders from selected contractors for the provision of a calf market and dairy sale ring with penning at the Cattle Market.

Colchester, Essex. — Eastern National Omnibus Co., Ltd., Fairfield Road, Braintree, have applied to B.C. for planning permission to erect new offices with public booking and inquiry facilities at 31 Queen Street.

Congleton, Ches. — B.C. recommended to allow The Hammerson Group of Companies, Quadrex House, Park Lane, London, W.1, to prepare plans for the redevelopment of a large part of the town centre.

Cuffley, Middx. — Hertfordshire C.C. have approved, subject to Ministry approval, plans for the erection of the first phase of a new infants school beside the present junior and infants school. Estimated cost £18,640.

Cumberland. — E.C. recommended to approve plans for the erection of a new school at Longtown. Estimated cost £170,000.

Cwmbran, Mon. — U.D.C. have approved in principle scheme for the construction of the proposed indoor swimming pool, by direct labour. Estimated cost £160,000; are to apply to Ministry for approval to complete the sports stadium scheme, £87,000.

Darlington, Dur. — The Chemical and Insulating Co., Ltd., West Auckland Road, Darlington, are to erect a new physics laboratory and have prepared their own plans; John Tinsley, Ltd., are to extend their works in Neasham Road and plans have been approved. Plans have been approved for an industrial building of about 5,000 sq. ft. near Green Street, for Industrial and Marine Salvage, Ltd.; K. V. Shaw, Oak House, Market Place, Bedale, is the architect for a village hall at Summerhouse.

Rider Hunt and Partners, Merrion Street, Leeds, have been appointed quantity surveyors by Newcastle upon Tyne Hospital Board, for a million pounds development scheme at Memorial Hospital. The Board's Chief Architect is P. H. Knighton.

Darliston, Staffs. — U.D.C. recommended to approve layout of 27 houses (for sale) at Bentley estates.

Darwen, Lancs. — B.C. have approved scheme for improvements at Public Baths and Assembly Hall. Estimated cost £3,400.

Doncaster, Yorks. — Cartwright Woollatt and Partners, 6 Clarendon Street, Nottingham, are the architects for erection of a three-storey office block at 62 Hall Gate for the Abbey National Building Society, scheme still in the design stage.

Mac Fisheries, Ltd., High Street, to build new self-service store, planning permission not yet granted. Plans approved for conversion of the Odeon Cinema, Hallgate, into a 10-pin bowling alley and ballroom for the Rank Organisation, Ltd., 38 South Street, London, W.1. Estimated cost £50,000.

Durham. — City Council have granted permission, subject to County Planning approval, to St. Margaret's Church Parochial Council to prepare plans for new parish hall in South Street.

Durham. — The Arndale Property Trust, Ltd., Bank Street, Bradford, are planning a supermarket on the site of the Neville Hotel.

East Barnet, Herts. — U.D.C. recommended to approve the erection of a central library at the junction of Brookhill/Park Roads. Estimated cost £39,000.

East Dereham, Notts. — C.C. recommended to submit to Home Office, for approval, plans for a children's home at East Dereham. Estimated cost £7,500.

East Retford, Notts. — R.D.C. have approved plans for the erection of colliery workshops, stores, fire station and stockyard at Bevercotes Colliery, for National Coal Board.

East Suffolk. — E.C. have approved the erection of a modern secondary school at Gisleham during 1961/62.

Edinburgh. — Michael Laird, 22 Moray Place, Edinburgh, is the architect for a proposed music school for George Watson's Boys College. Estimated cost £100,000.

Reid and Forbes, 116 Hanover Street, Edinburgh are the architects for extensions to the Royal High School, Regent Road, Edinburgh for City Council.

Essex.—C.C. hope to invite tenders soon for extension at County Hall, Chelmsford. Estimated cost £524,978.

Eston, Yorks.—R. Dawkins, Eston, has applied to the planning authorities for permission to erect a club and assembly hall at Normanby Road, Normanby.

Fareham, Hants.—Ministry have approved U.D.C.'s 10-year scheme for the central redevelopment of the town, to the north of the main shopping centre of West Street, including a new road link between West Street and High Street, following the development of land with a new civic centre, shops, offices, flats, and parking facilities.

Filey, Yorks.—U.D.C. have approved in principle sketch drawings for cafe, kiosks and toilets on the Royal Parade. Planning permission to be obtained.

Fleetwood, Lancs.—Sir William Holford and Partners, architects, 2a Angel Court, London, E.C.2, have prepared a scheme for development of the 200-acre Larkholme estate at West Shore, between Fleetwood and Blackpool, for Fleetwood Estate, Ltd., 29 Queens Terrace, Fleetwood.

Freestyle Lynn, Norfolk.—Ministry have approved R.D.C.'s scheme for improvements to 25 pre-war dwellings at Great Massingham.

Gateshead, Dur.—Plans have been prepared by Wallis Gilbert and Partners, 5, Cromwell Road, South Kensington, London, S.W.7, for the erection of a two-storey office block at Queensway, Team Valley estate, for Hoover, Ltd., Greenford, Middlesex.

Matthers Property Co., 31a York Place, Leeds, are planning the erection of shops at 191-7 High Street.

Gateshead, Dur.—The contract for converting the Shipcote cinema into offices will be let shortly. Tenders are under consideration. The promoters are Hardy and Co., Clayton Road, Newcastle upon Tyne, and the architect E. M. Lawson, Barras Buildings, Barras Bridge, Newcastle.

The Northern General Transport Co., Ltd., Queen Street, Bensham, are to erect a paint shop to plans by R. C. Cowmeadow, Slad, Stroud, Gloucester.

Gosforth, Northumb..—U.D.C. are planning the erection of a new depot on nearly nine acres of land at Christon Close.

Grantham, Lincs.—B.C. recommended to prepare plans for the conversion and alteration of the former borough police station; approve layout plans and apply for sanction to borrow £8,667 for the erection of 64 garages off Derwent Road.

Town Planning Committee have approved plans for the erection of two shops and two flats at 3/5 Welby Street, for Bridges and Co., 1-2 Welby Street, Grantham.

Hammersmith.—B.C. recommended to approve adaptation of the medicinal baths for use as additional accommodation for the Health Laundry Service. Estimated cost £3,242.

Haverhill, Suffol.—U.D.C. have granted planning permission for the erection of 5,000 sq. ft. factory at the Industrial estate, for Lennox Ladders (Walthamstow), Ltd., Lennox Road, London, E.17.

Hayes, Kent.—Shaftesbury Society, 112 Regency Street, London, S.W.1, have submitted to M.E. for approval, plans for the extension of Coney Hill School. Estimated cost £40,000.

Hemel Hempstead, Herts.—B.C. recommended to approve scheme for the erection of 26 garages at Elephant Farm. Estimated cost £4,000.

Co. E.C. have approved the erection of a new secondary school at Highfield.

Herefordshire.—E.C. have approved the erection of a primary school at Credenhill.

Hertfordshire.—Co. E.C. have approved scheme for the provision of a youth wing at Victoria Girls' Secondary School. Estimated cost £13,753.

Higham Ferrers, Northants.—B.C. to apply for sanction to borrow £4,000 for erection of 20 garages at Elizabeth Way.

Hornsey, Middx.—Ministry have approved the erection of a fire station at the junction of Priory Road/Park Avenue South.

Hounslow, Middx.—Outline plans have been prepared for the rebuilding of Hounslow East Station during 1961-62, for London Transport Executive. Estimated cost £100,000.

Hove, Sussex.—B.C. have approved, in principle, scheme for the redevelopment of the sea front, east of the King Alfred, between Kingsway and King's Esplanade, comprising flats and underground car park, for Dreadnought Garage and Motor Engineering Works (Hove), Ltd., Kingsway, Hove.

Huddersfield, Yorks.—Leeds Regional Hospital Board have approved preliminary sketch plans for developments at St. Luke's Hospital,

for submission to the Ministry. Estimated cost £1,146,000.

Huddersfield, Yorks.—B.C. have approved preparation of scheme for erection of new Magistrates' Court in the town.

Irthingborough, Northants.—U.D.C. to apply for sanction to borrow £3,334 for the proposed Addington Road estate community centre.

Istele of Ely.—B.C. to proceed with the erection of a hall and two additional classrooms at Ramnoth Road School, Wisbech.

Islington.—L.C.C. approved the adaptation of 75a Mildmay Park as a children's home. Estimated cost £9,860.

Keighley, Yorks.—B.C. have approved the erection of a pavilion at Oxenhope and a bandstand in Cliffe Castle grounds.

Kendal, Westmor.—B.C. have approved the provision of an additional stairway and exit from the balcony of the Town Hall. Estimated cost £2,000.

Kincardine.—B.C. have approved in principle plans to erect a new Mackie Academy. Estimated cost £300,000.

King's Lynn, Norfolk.—Co. Welfare Committee have prepared amended plans for an old people's home. Estimated cost £73,000.

King's Lynn, Norfolk.—B.C. recommended to approve plans for the erection of a block of three shops, together with four two-storey maisonettes on the Sun Inn site; in principle plans for a new slaughter house.

H. J. Mallett, Ltd., Hardwick Road, have been granted planning permission to develop a caravan site at Marham.

Lancaster.—North West Electricity Board propose extensions to their premises in North Road area.

Lancaster, Dur.—Factory additions are proposed for Bolton, Ltd., Castleside. The architects are Eltringham and Lowes, Derwent Street, Blackhill.

Lancing, Sussex.—Work is expected to commence towards the end of 1961 on the erection of showrooms, workshop and filling station at 339-345 Brighton Road for S. J. Middleton and Co., Ltd., Fewster and Gamble, 5a Liverpool Gardens, Worthing, are the architects, and G. C. Winton, 44 High Street, Findon, is the quantity surveyor for the scheme. Estimated cost £70,000.

Leatherhead, Surrey.—U.D.C. have approved the provision of a pavilion at Kingston Road Recreation Ground. Estimated cost £1,600.

Leeds.—Ministry have granted planning permission to City Council for the erection of a secondary school with playing fields on land at Cross Green Lane.

Leicester.—E.C. recommended to approve renovation work at Scrattoft Hall. Estimated cost £41,000.

Lichfield, Staffs.—City Surveyor to prepare scheme for provision of garages on site of parking bays in Windmill Close.

Loughborough, Leics.—B.C. hope to invite tenders within the next two months for the erection of public conveniences at Market Yard.

Town Planning Committee have approved, subject to conditions, plans for the erection of shops and a store at 9, 10 and 11 Cattlemarket, for Sketchley, Ltd., Sketchley Dye Works, Hinckley.

Lyme Regis, Dorset.—B.C. recommended to prepare specifications and invite tenders for the painting of houses at Colway Mead estate.

Mansfield, Notts.—Bills of quantities are being prepared for the erection of licensed premises at Broomhill Lane, for the Home Brewery Co., Ltd., architect for the scheme is J. A. Tadman, 29 Lombard Street, Newark, quantity surveyor is T. H. Whiting. Mansfield and reinforced concrete consultants are Truscon, Ltd., London, S.E.1. Estimated cost £20,000.

Market Harborough, Leics.—U.D.C. have approved plan for new dressing rooms and a club room at Gores Lane for the Kibworth Rugby Union Football Club.

Middlesbrough, Yorks.—Wilburn and Son, 11 South Parade, Doncaster, are the architects for club premises at Homerton Road, for S. Smith Old Brewery, Ltd., and the Middlebeck Social Club.

B.C. to lease land to J. T. Bell and Sons, Market Street, Newcastle upon Tyne, for the erection of a £250,000 hotel, six shops, petrol station, and car park.

Middlesbrough, Yorks.—Firms planning new premises in the Lloyd Street industrial area include Skefko Ball Bearing Co. (depot); W. Firman (workshops for vehicle repair, etc.); Stirk Bros. and F. Stonehouse, Ltd. (fish warehouse); and British Insulated Callender's Cables, Ltd., (office building).

Middlesex.—Cyril Sweet and Partners, 37 Bedford Row, London, W.C.1, are the quantity surveyors for the erection of a 12-storey office block and car park at Uxbridge Road, between Southall and Hayes, for Property Investments Consolidation. Clarke Nicholls and Marcel, 21 Westbourne Grove, London, W.2, are the con-

sultant engineers for the scheme. Estimated cost £450,000.

Minehead, Som.—U.D.C. have approved the erection of a sea front concert hall. Estimated cost £29,000.

Mirfield, Yorks.—West Riding E.C. have approved the erection of a new physics laboratory at Grammar School. Estimated cost £5,500.

Newcastle Emlyn, Carns.—Ministry have approved U.D.C.'s scheme to modernise and extend the Cattle Market. Final plans are to be prepared. Estimated cost £7,500.

Newcastle-under-Lyme, Staffs.—Co. E.C. have approved the purchase of land fronting Knutton Lane, Ashfields, as a site for the proposed College of Further Education and Church of England and Roman Catholic secondary schools.

Newcastle upon Tyne.—Planning Committee have approved a five-storey extension to the radiotherapy department at General Hospital, for Regional Hospital Board. Work should start next January and be completed in two years. Estimated cost £400,000.

Normanton, Yorks.—U.D.C. to invite tenders for the erection of new branch libraries at Alton and Queen Elizabeth Drive.

Normanton, Yorks.—Outline planning application approved by the U.D.C. for licensed premises on Queen Elizabeth Drive, for Samuel Smith's Old Brewery (Tadcaster), Ltd., and for extensions and modernisation at electricity service centre, High Street, for Yorkshire Electricity Board.

North Riding.—Co. E.C. propose the erection of primary schools at Newton, West Tanfield and Topcliffe.

North Riding.—Morrison and Partners, 103 Belper Road, Derby, have been appointed architects and quantity surveyors by the E.C. for the proposed Marton Primary School. The authority are also to select architects for the proposed Grangetown and Guisborough county primary schools.

E.C. approved sketch plans for branch library at Marton. The cost will be £15,000 and work will start next year.

Nottingham.—Working drawings are being prepared by J. Sketchley, architect, 23 Kirk Lane, Ruddington, Notts. for the erection of a new hall at Clifton estate, for the Y.M.C.A. Estimated cost £52,000.

Oswaldtwistle, Lancs.—U.D.C. recommended to apply for sanction to borrow £1,800 for erection of 15 garages on the Thwaites Road estate.

Oswestry, Salop.—County Architect to prepare detailed plans for divisional police headquarters between Oakhurst Road and Mount Road. Estimated cost £25,700.

Oxford.—St. Edmund Hall, Oxford, propose the erection of a new dining hall block and associated rooms on the site of the Forum Restaurant in the High Street. Estimated cost £120,000.

City Council recommended to approve plans for the erection of a new teaching block at Bayswater Secondary School, Bayswater Road, Headington.

City Council recommended to approve plans for the provision of two additional wards and alterations at Warneford Hospital, for Regional Hospital Board.

Pershore, Wores.—Co. E.C. have approved the erection of hostel block for 60 students at the Pershore Institute, with staff houses and extension to the greenhouses, and scheme for improving the Pershore County Secondary School kitchen accommodation. Estimated cost £80,000 and £4,500 respectively.

Perth.—Dean and Guild Court have approved plans for a new primary school at Letham housing estate for Education Authority. Estimated cost £152,000.

Poole, Dorset.—Ministry have approved B.C.'s scheme to reclaim land in Parkstone Bay for a public open space, a new road linking Whitecliff with Baiter peninsula, blocks of flats, cafe, sports pavilion and allotments.

Portsmouth.—City Council recommended to invite tenders for the construction of drawing office block for use by Portsmouth Aviation, Ltd., estimated cost £25,000; approve in principle preliminary scheme for the erection of 18 warehousing units with provision for a market and with high level car park over, north of Charlotte Street, £282,000.

Port Talbot, Glam.—Ministry have approved in principle B.C.'s scheme for the construction of a swimming pool at Aberavon seafront. Estimated cost £277,000.

Pulborough, Sussex.—West Sussex Co. E.C. have approved plans for the extension of Lodge Hill to form an assembly hall and three discussion rooms. Estimated cost £20,000.

Rotherham, Yorks.—B.C. to submit to Ministry for approval, plans for erection of a new mental hostel for young people at Doncaster Road on the site of Park Lee, and for hostel for the elderly at Kimberworth Park.

B.C. to start work early next year on a scheme for the enlargement of Effingham

Square, including a new block of shops and offices. Estimated cost £70,000.

Rhyl, Flint.—U.D.C. have approved in principle the proposed development of the Queen's Gardens on the West Parade—at present occupied by a children's cycle track—to provide under one roof a theatre seating 2,000 people, a dance hall to accommodate 1,000 dancers, an aviary, aquarium, conservatory, bars, lounge, a snack bar and an underground car park. Estimated cost £370,000.

Richmond, Surrey.—B.C. to submit to Ministry, for approval, scheme for the provision of public baths at Old Deer Park. The Crown Commissioners and the Royal Fine Art Commission have approved the scheme. Estimated cost £250,000.

St. Neots, Hunts.—U.D.C. recommended to approve plan for the first stage of extensions to factory at Priory Lane for R.F. Development Co., Ltd.

Sawbridgeworth, Herts.—Co. E.C. have approved the purchase of land at Bullfields for the provision of a junior school.

Scarborough, Yorks.—W. S. Gray, surveyor, 31 Grosvenor Road, has prepared plans for classroom block at the Convent of the Ladies of Mary, St. Thomas Street; plans are being prepared for the erection of a church hall at St. Columba's Church, Dean Road. The architect is F. Johnson, 16 High Street, Bridlington; Plaxtons (Scarborough), Ltd., Seamer Road, are to carry out additions to their offices and workshop at Back Beaconsfield Street; G. W. Alderson, 4 Pavilion Terrace, is the architect for additions to Bramcote School, Filey Road; Bernard Thorpe and Partners, 30 Market Street, Newcastle upon Tyne, propose offices with display windows at 30-2 Northway.

B.C. recommended to apply for sanction to borrow £20,002 for reconstruction of fish sheds and ancillary works at West Pier.

Sheffield.—Town Planning Committee considering application for planning permission from Trust Houses, Ltd., 53 Short Gardens, London, W.C.2, for erection of a new residential hotel on a site between Manchester Road and Fulwood Road.

Sidecup, Kent.—Co. E.C. recommended to approve scheme for the provision of a car park for the Sidecup Evening Institute at the Secondary School for Boys, Alma Road. Estimated cost £1,330.

Skipton, York.—Planning permission granted to Waterhouse (Manchester), Ltd., for extension of workshop at Victoria Mills, Cross Hills.

Southampton.—B.C. recommended to appoint Clifford Culpin and Partners, 39 Doughty Street, London, W.C.1, as architects for the provision of an old people's home at Thornhill during 1961-62.

South Shields, Dur.—E.C. have invited selected contractors to tender for the proposed Whiteleas Infants' School. The architect is J. Smeds, 56a Camden Street, North Shields. Tenders will shortly be considered by the promoters, for the erection of the St. Oswald's R.C. Junior Mixed and Infants' School. The architects are Page, Son and Hill, 75 King Street.

E.C. is to carry out alterations to the Grammar-Technical School for Boys and Girls, and preliminary plans have been considered. The architect is J. Smeds, 56a Camden Street, North Shields.

Stanley, Dur.—Revised sketch plans are being considered by the U.D.C. for extensions to the Council Offices. The architects are P. L. Browne, Son and Harding, Pearl Buildings, Northumberland Street, Newcastle upon Tyne.

Stockton-on-Tees, Dur.—The Arndale Property Trust, Bank Street, Bradford, who are carrying out a number of development projects in the north east, are discussing with Stockton planning authorities a £4m. scheme for modernising part of High Street. The work involves the demolition of property and the erection of modern shops and offices on the site. The property is still in very early stages. The contractors for the Trust's development plans are usually Leslie and Co., Woodland Road, Darlington.

Sunderland, Dur.—B.C. recommended to approve the erection of the first 59 garages on various sites at Town End Farm at a total cost of £5,925.

Sunderland, Dur.—E. G. Crofts, 49 Grange Road, Darlington, is the architect for new premises for the Pennywell Comrades Social Club. The cost will be about £25,000.

S. W. Milburn and Partners, 9 Esplanade, are the architects for new Thorney Close Methodist Church.

Sutton and Cheam, Surrey.—B.C. to prepare a comprehensive scheme for the development of the South Eastern Gas Board's premises at Sutton.

Taunton, Som.—C.C. propose the erection of a new building to house the headquarters of the County Weights and Measures Department and the offices of the Taunton Divisional Surveyor at South Road. Estimated cost £35,700.

B.C. have approved scheme for the modernisation of 1,600 pre-war houses. Estimated cost £128,000.

Tiverton, Devon.—Governors of Blundells School propose the erection of a new school on the other side of Blundells Road, between Westlake and Petergate houses. Estimated cost £100,000.

Torpoint, Corn.—Co. Fire Brigade Committee have approved plans for the erection of a new two-bay fire station in Harvey Street. Estimated cost £10,000.

Tring, Bucks.—U.D.C. have granted planning permission, subject to conditions, for the proposed erection of factory buildings at Brook Street, for Aylesbury Turned Parts (True Screws), Ltd., 43 High Street, Aylesbury.

Twickenham, Middx.—B.C. to submit to C.C. for planning permission, outline plans prepared by Sir Albert Richardson, 24 Queen Anne Street, London, W.I., architect for the redevelopment of the Church Street area.

Walsall, Staffs.—B.C. recommended to approve sketch plan for the extension of the Central Library at land adjoining the library in Lichfield Street; appoint Edwards, Son and Bigwood, surveyors, 158 Edmund Street, Birmingham, 3, as consultants for the redevelopment of the area bounded by Park Street, Stafford Street, Wisemore, St. Paul's Street and the railway; subject to M.E. approval, to apply for sanction to borrow £715,087 for the erection of the West Midlands Training College.

E.C. have submitted to M.E. for approval sketch plans for a comprehensive school at Beechdale.

Wandsworth.—A block of 16 flats is proposed at Carlton Drive, Putney, by Land and General Development group of companies.

Wantage, Berks.—R.D.C. have approved in principle the acquisition of additional land at the rear of development at White Road, East Hendred, for the provision of approximately 30 garages and a children's playground.

Warwick.—B.C. recommended to approve the erection of shops and maisonettes in the centre of Percy Estate.

Warwickshire.—C.C. have approved the erection of a clinic near site of new school at Finham. Estimated cost £11,000.

Washington, Dur.—Tube Investments, Ltd., are planning the erection of a factory in the Washington area.

Watford, Herts.—Co. E.C. recommended to approve improvements to the laboratory at the Boys' Grammar School. Estimated cost £1,100.

Welshpool, Monts.—Weightman and Bullen, architects, 76 Rodney Street, Liverpool, 1, have prepared plans for the erection of a Roman Catholic Church to replace St. Winefrides at Mount Street. Estimated cost £8,000 to £9,000.

West Hartlepool, Dur.—G. T. Brown and Son, 14 Grange Terrace, Stockton Road, Sunderland, are the architects for a proposed Church of Jesus Christ of Latter-Day Saints. No contract let. The cost will be about £100,000.

West Suffolk.—Health Committee have approved plans for elderly people's homes at Bury St. Edmunds and Haverhill. Estimated cost £53,000 each.

M.E. have approved the final phase of improvements to Sudbury Primary School for E.C. Estimated cost £25,945.

E.C. have approved the first phase of a primary school at Long Melford. Estimated cost £25,000.

Widnes, Lancs.—B.C. to start work in the autumn on the erection of a community centre in Widnes Road, for old people.

Wigan, Lancs.—B.C. to sell to the Roman Catholic authorities 3,860 sq. yd. of land at Marsh Green as a site for a new church.

Wigan, Lancs.—B.C. to erect 51 garages at rear of Delph Street.

Wimbledon, Surrey.—B.C. to submit to C.C. for approval, comprehensive redevelopment scheme for the area bounded by Wimbledon Hill Road, Worple Road, Alt Grove and the railway path between Alt Grove and Wimbledon Hill Road, including the provision of multi-storey car parking and additional shops, widening and improvement of streets and the rebuilding of premises.

Winchester, Hants.—Hampshire and Isle of Wight Police Authority have approved in principle preliminary plans for an eight-storey building to replace the present County Police Headquarters, West Hill.

Wood Green, Middx.—Westmore and Partners, 46 Cannon Street, London, E.C.4, are the architects for the erection of a warehouse and office building at South's Potteries, White Hart Lane, for Samuel South and Sons, D.M.W.S., Ltd., and Idris, Ltd.

Wortley, Yorks.—West Riding C.C. have granted detailed planning permission to erect a centrally heated block of 28 units of accommodation and communal rooms for elderly people at Chapeltown, for the R.D.C.

Yeovil, Som.—C.C. propose the erection of an ambulance station and underground Civil Defence headquarters. Estimated cost £36,510.

York.—North Riding E.C. have approved plans for erection of library at Huntington. Estimated cost £12,160.

DEMOLITION

Bacup, Lancs.—B.C. recommended to approve the demolition of a four-storey section of Plantation Street.

King's Lynn, Norfolk.—B.C. recommended to approve the demolition of 33a and 33b Wood Street and garage at rear of 68 South Street.

Rochdale, Lancs.—B.C. recommended to invite tenders for the demolition of 23 and 23A St. Mary's Gate.

ELECTRICAL

Hornsey, Middx.—B.C. recommended to prepare a detailed scheme for the installation of floodlighting at Bishop School playing area.

West Riding.—C.C. have approved the erection of two large coal-fired power stations on the River Aire, one at Eggbrough four miles east of Knottingley, and one adjacent to their existing station at Ferrybridge, for the Central Electricity Generating Board, Ministry of Fuel and Power approval to be obtained.

GAS AND WATER SUPPLY

Bury, Lancs.—Recreation Grounds Committee have approved scheme for the development of Clarence Reservoir. Estimated cost £13,000.

Clutton, Som.—R.D.C. recommended to approve the laying of water mains to the hamlets of Northwick and Radford. Estimated cost £870 and £774, respectively.

Durham.—Durham County Water Board, are to carry out water main extension schemes at a cost of £23,224 and £7,952.

Freebridge Lynn, Norfolk.—R.D.C. to submit to Ministry for approval water supply scheme for Castle Rising and Appleton. Estimated cost £1,500.

Loughborough, Leics.—B.C. recommended to proceed with the extension of the water supply to Rushcliffe estate, East Leake, by way of a 4in. main. Estimated cost £1,175.

Rochdale, Lancs.—B.C. recommended to apply for sanction to borrow £2,050 for the construction of a 6in. diameter main from Hill Top Drive to Hillcrest Road and Cowm Top.

Wymondham, Norfolk.—C.C. recommended to approve in principle for grant aid. U.D.C.'s water supply scheme for Silfield. Estimated cost £4,600.

HARBOURS, PIERS AND SEA DEFENCE WORKS

Bognor Regis, Sussex.—U.D.C. have approved sea defence schemes for Felpham and Aldwick. Estimated cost £216,000 and £62,000, respectively.

HEATING AND VENTILATING

Blackburn, Lancs.—B.C. recommended to apply for sanction to borrow £4,000 for improvements to heating systems at Intack and Roe Lee Schools.

Portsmouth.—City Council recommended to appoint E. Wingfield-Bowles and Partners, 32 Old Queen Street, London, S.W.1, as heating consultants for the provision of an arts, commerce, management and administration block at the college of technology.

Sheffield.—Regional Hospital Board recommended to appoint C. Mackenzie Jarvis and Partners, 34 Victoria Street, London, S.W.1, consulting engineers for reorganisation of engineering services in geriatric block 4 and Oxley and Bussey, 91 Pinstone Street, Sheffield, 1, architects for improvements to entertainment halls at Middlewood Hospital.

Worcestershire.—E.C. have approved the conversion of boiler plants to automatic underfloor stoking at Bewdley County Secondary and Hill and Cakemore County Secondary Schools. Estimated cost £1,500 and £1,560 respectively.

HOUSING SCHEMES

Andover, Hants.—R.D.C. to erect 14 three-bedroomed houses with built-in garages and four two-bedroomed bungalows on the site of the old hatted camp at Chilbolton.

Arbroath, Angus.—Dean of Guild Court have approved the fourth development of Seaton Road housing area, involving 186 houses for B.C. Estimated cost £326,303.

Ashby Wolds, Leics.—U.D.C. to erect 50 houses at Norris Hill site.

Barnard Castle, Dur.—R.D.C. have approved the erection of 20 bungalows on the Red House estate, Etherley.

Barnet, Herts.—U.D.C. recommended to approve plans for the erection of a group of old people's flats at Mayhill Road, comprising

of a pair of two-storey blocks (one of 12 flats, the other of eight) linked by a central community room, with a service flat above.

Basildon, Essex.—Printers Pension Corporation, 61 Doughty Street, London, W.C.1, propose the erection of 40 bungalows and flats for old people to replace the present homes at Wood Green, now more than 100 years old. Estimated cost £100,000.

Basingstoke, Hants.—North East Hampshire Area Planning Committee have approved B.C.'s plan for 32 houses at South Ham estate.

R.D.C. have approved in principle, layout plan for the development of land in Cavalier Road, Old Basing, for housing purposes.

Batley, Yorks.—West Riding C.C. have approved the erection of 52 dwellings on land off Mayman Lane, for B.C.

Bedale, Yorks.—R.D.C. are to erect 32 houses and 24 bungalows at South End. The Council's architect is K. V. Shaw, Market Place, Bedale.

Bedlingtonshire, Northumb.—U.D.C. has been asked by the Central Electricity Generating Board to provide 100 houses for key-workers at Blyth Power Station.

Billingham-on-Tees, Dur.—U.D.C. Housing Committee have approved the erection of 10-storey blocks of flats, and the architects, Elder and Lester, Town Square, Billingham, have been authorised to proceed with plans.

Bishop Auckland, Dur.—William Leech, Ltd., St. James Street, Newcastle upon Tyne are to erect about 300 houses at West Auckland for the employees of Westool Ltd., a local engineering company.

Bilofield and Flegg, Norfolk.—R.D.C. to erect six one-bedroom bungalows at Upton.

Braughing, Herts.—U.D.C. recommended to submit to C.C. for approval, plans for 24 two-storey flatlets and a group of 12 garages at Much Hadham.

Brecon.—B.C. recommended to approve the erection of 50 houses at Coryton Close.

Bridport, Dorset.—B.C. recommended to submit to Ministry for approval, scheme for the erection of 12 units of accommodation for aged persons at Magdalen Lane.

Brighton, Sussex.—Town Planning Committee have approved outline application for the erection of four three-storey blocks, comprising 24 flats and 24 garages at the north side of Mill Rise for R. Green Properties, Ltd., 27 Chesham Road, Brighton, 7.

Bristol.—Housing Committee have approved, subject to planning permission, scheme for 118 detached houses, 890 semi-detached, 537 terraced, 39 bungalows and 96 old people's houses at Stockwood estate.

Chatham, Kent.—B.C. recommended to approve outline plans for the erection of two police houses and garages at the junction of Sorrell Road and Sharon Crescent, for C.C.

B.C. recommended to invite Peak Construction (Liverpool), Ltd., John Laing and Son, Ltd., and Gregory Housing, Ltd., to submit preliminary plans for the design and construction of dwellings in the Ordnance Street redevelopment area.

Cheadle, Staffs.—R.D.C. recommended to proceed with plans for the erection of old people's bungalows in the district.

Chippenham, Wilts.—B.C. recommended to invite tenders from selected contractors for the erection of aged persons' dwellings at Factory Lane.

Cirencester.—U.D.C. have prepared plans for a further 12 houses at New Mills estate.

Cosford, Suffolk.—R.D.C. to erect twelve aged persons' bungalows with warden's accommodation at the Homefield estate, Boxford.

Cranbrook, Kent.—R.D.C. to proceed with scheme for the erection of 47 dwellings at Cranbrook, Sissinghurst and Hawkhurst.

Desborough, Northants.—U.D.C. to erect 30 houses at Rushton Road estate.

Desborough, Northants.—U.D.C. to prepare preliminary layout for 30 dwellings at Rushton Road housing estate.

Downham, Norfolk.—R.D.C. to apply to Ministry for permission to erect 32 dwellings (for slum clearance purposes) at Fincham, Hilgay, Hockwold, Marham, Southery, Welney, Wimbotsham and Wormegay.

Eton, Bucks.—U.D.C. are to prepare plans for the rebuilding of property at Brocas Street, Emlyn Buildings, Union Terrace and rear of the High Street into flats, etc.

Felling, Dur.—U.D.C. are to erect 18 bungalows near Keir Hardie Avenue, Ellen Wilkinson estate.

Frome, Som.—U.D.C. have approved in principle scheme for the erection of 45 flats at the Mount housing estate.

Gosforth, Northumb.—U.D.C. surveyor has prepared a preliminary scheme for nine flats at The Elms, Elmfield Road.

Havant, Hants.—Land and General Developments, Ltd., 8 Berkeley Street, London, W.I. have acquired a seven acre site at South Street for housing purposes.

Haverhill, Suffolk.—Standing Joint Committee have approved layout for two pairs of police houses and garages at Eastern Avenue.

Holywell, Flints.—R.D.C. are preparing preliminary plans for the erection of 75 houses to be occupied by miners from the Point of Ayr colliery.

Hove, Sussex.—Planning permission has been granted for the erection of an eight-storey block of 50 flats at the corner of Cromwell Road and Palmeira Avenue, for Land and General Developments, Ltd., 8 Berkeley Street, London, W.I. Fitzroy Robinson and Partners, 50 Norfolk Square, Brighton, 1, are the architects for this scheme.

Huntingdon and Godmanchester, Hunts.—B.C. recommended to approve in principle sketch plans for the development of London Street/Pipers Lane/Earning Street.

Kingsclere and Whitchurch, Hunts.—North West Hampshire Area Planning Committee have approved R.D.C.'s plans for the erection of three pairs of bungalows at Sprents Lane, Overton.

King's Lynn, Norfolk.—B.C. recommended to approve layout for the erection of 24 dwellings, 12 flats and 12 garages on the Turbus Road site and four-storey development on the Tarren site, North Lynn, comprising 120 one-, two- and three-bedroomed maisonettes and flats and 24 garages.

Lancaster, Dur.—William Leech (Builders), Ltd., St. James Street, Newcastle upon Tyne have applied to the R.D.C. for permission to erect houses on the Consett approach to the village.

Lancaster.—R.D.C. to erect five old people's bungalows at The Meadows, Yealand Redmayne; six at The Roads, Warton; and five on Church Brow, Bolton-le-Sands.

Leatherhead, Surrey.—Co. Planning Committee have granted outline planning permission for the erection of eight bungalows and 22 flats for the aged and infirm and a warden's cottage at Upper Fairfield Road, for U.D.C.

Leyton, Caerns.—R.D.C. have approved in principle scheme for the erection of 20 new council houses.

Loddon, Norfolk.—R.D.C. to erect 30 dwellings in various parishes during the next two years.

Loughborough, Leics.—B.C. recommended to approve, subject to conditions, plans for the erection of 21 detached houses, five pairs of semi-detached houses, 23 detached bungalows, one and four pairs of semi-detached bungalows, at 208, 195 and 182 Parks Farm estate, for W. Davis and Co. (Leicester), Ltd., Forest Fields, Forest Road, Loughborough.

Lyme Regis, Dorset.—B.C. recommended to approve plans for the residential development of part of the grounds of Portland Lodge, Clappentail Lane and Uplyme Road for the Trustees of L. M. A. Gordon, c/o A. Paul and Son, 29 Broad Street, Lyme Regis.

Middlesbrough, Yorks.—Premier Dwellings (Cleveland), Ltd., 157 Albert Road, have applied to the local authority for permission to erect 208 flats and 114 garages.

Mildenhall, Suffolk.—Co. Planning Committee have approved in principle, alternative plan for 350 married quarters for American families opposite Lakenheath U.S.A.F. base and alongside the Brandon-Mildenhall Road, for the Air Ministry.

Newcastle-under-Lyne, Staffs.—B.C. recommended to prepare plans for the erection of multi-storey and five-storey flats in the Upper Green redevelopment.

Newmarket, Cambs.—U.D.C. to prepare a plan for the conversion of Grafton Cottage, Fitzroy Street, into two self-contained flats with garage accommodation.

Norton-Radstock, Som.—U.D.C. recommended to approve layout plans for the erection of 33 houses at site off Wells Road, for Plummer and Hockey, Wells Road, Radstock.

U.D.C. to proceed with the erection of a further instalment of 32 flats, bungalows and houses at Hillside Avenue site, Midsomer Norton.

Portsmouth.—Health and Housing Committee have approved in principle, the redevelopment of the Grosvenor Street district of Southsea, comprising 139 housing units, a public health centre fronting on to Hyde Park Road, 23 lock-up garages, 13 parking spaces, and the closing of part of Waterloo Street.

Rochdale, Lancs.—B.C. recommended to approve amended site plans for 23 houses and bungalows at Rooley Moor Road for Mountalan Constructions, Ltd., Ainsworth Lane, Bolton.

Rushden, Northants.—U.D.C. have approved draft scheme for a block of 16 single bedroom flatlets, with accommodation for a warden, 17 single bedroom bungalows, one two-storey block of eight single bedroom flats and one two-storey block of four two-bedroom flats for old people at Kilburn Place.

Ryton, Dur.—U.D.C. to invite tenders for the erection of 15 old people's cottages. The Council's direct labour dept. will submit a price.

South Shields, Dur.—Corporation Housing Committee are planning the erection of 27 flats, 28 semi-detached houses, and seven bungalows on a site near the Western Approach Road.

Spennborough, Yorks.—County Town and Country Planning Committee have approved the development on the Brooklyn Street site at Moorsend, Cleckheaton, comprising the erection of three multi-storey blocks of flats, and seven three-storey blocks of flats, a total of 198 dwellings in all, together with 68 garages, for B.C.

Stanley, Dur.—U.D.C. planning the erection of houses on the site of an 11 acres pithead between the town and South Stanley housing estate; to negotiate with Thomas Armstrong, Ltd., 16 Robson Street, Newcastle upon Tyne, for the erection of further houses on the Lintz housing scheme.

Stratford-upon-Avon, War.—Town Planning Committee have approved plans for the erection of 24 flats at Warwick Road, for Stowe and Co., Ltd., 111 Regent Street, Leamington Spa.

Strood, Kent.—R.D.C. to consider scheme for the erection of approximately 25 houses behind Kitchener Cottages, Lower Stoke.

Sutton and Cheam, Surrey.—Town Planning Committee have approved, subject to conditions, plans for the erection of 55 flats and maisonettes, 55 private garages at 112-136 Brighton Road, Sutton, for George Wimpey and Co., Ltd., 26 Hammersmith Grove, London, W.6; outline application for the erection of 27 five-room, three-storey units, comprising 12 terrace houses fronting Cavendish Road, eight terrace houses fronting Christchurch Park, and seven terrace houses fronting new cul-de-sac at 7, 9 and 11 Christchurch Park and 20-26 Cavendish Road, Sutton, for M. J. Gleeson (Contractors), Ltd., Harewood House, London Road, North Cheam.

Twickenham, Middx.—B.C. Housing Committee propose the erection of about 25 council houses on site at Chertsey Road, near Godfrey Avenue and Chase Gardens.

Warwick.—B.C. recommended to approve the erection of 45 houses in eight blocks in the west end of the town.

Wellsop, Monts.—B.C. recommended to approve the erection of a further 200 houses and 50 garages at Oldfield estate.

West Bromwich, Staffs.—Ministry have approved B.C.'s scheme for development of an allotment site opposite Hallam Hospital for housing purposes including the erection of multi-storey flats.

Whitby, Yorks.—U.D.C. to erect another 18 houses and plans are to be prepared by the Council's architect.

Wigton, Cumb.—North-Eastern Housing Association, 5 Windsor Terrace, Jesmond, Newcastle upon Tyne are to erect 74 houses on behalf of R.D.C.

Wilton, Wilts.—Potter and Hare, architects, De Vaux House, De Vaux Place, Salisbury, are preparing sketch plans for the erection of 10 two-bedroom maisonettes and nine three-bedroom houses at Bulbridge estate.

PLANT AND MECHANICAL TRANSPORT

Hindley, Lancs.—U.D.C. to purchase a new refuse collection vehicle. Estimated cost £2,180.

PLAYING FIELDS, PARKS, ETC.

Acton, Middx.—B.C. recommended to apply for sanction to borrow £5,000 for the laying out of St. Mary's Church burial ground as an open space.

Bristol.—City Council recommended to apply for sanction to borrow £7,200 for the layout of part of the Lawford's Gate area of St. Judds as a public open space.

Burnham-on-Sea, Som.—U.D.C. have received planning approval for the construction of a chalet and caravan camp at Pillsmouth Farm site.

Irlingham, Northants.—U.D.C. to prepare improvement scheme for the central recreation ground to provide a further football pitch and pavilion.

Isle of Ely.—E.C. have approved the preparation and seeding of the playing field for March Grammar School at Eastwood. Estimated cost £1,500.

Leigh, Lancs.—B.C. have approved construction of garden at junction of Railway Road and Findlay Street for the Blind. Estimated cost £1,400.

Melksham, Wilts.—U.D.C. have approved in principle the further development of the King George's playing field. Estimated cost £1,842.

Newcastle-under-Lyne, Staffs.—B.C. recommended to prepare plan showing the layout of the land between Underwood Road extension and the existing allotments as a recreation ground.

Wigan, Lancs.—B.C. to apply for sanction to borrow £3,000 for development of the Woodhouse Lane, stadium and surrounds at Woodhouse Lane as a sports ground.

RIVER AND FLOOD PREVENTION WORKS

Goole, Yorks.—Yorkshire Ouse River Board have prepared a scheme for improvement of the left bank of the River Aire by raising the level by an average of three feet for a length of approximately 1,200yd. of Lodge Farm Lane, Airmyn, between Lodge Farm and Little Airmyn.

Isle of Ely.—Nene River Board have submitted to Ministry for approval, part 5 of scheme for filling in the counter drain downstream of Eldernell. Estimated cost £57,560.

Somerset.—River Board have approved, for submission to Ministry for grant aid, plans to prevent flooding in the Dunster and Langport districts. Estimated cost £1,279,000.

ROADS, BRIDGES AND SITE WORKS

Aylesbury, Bucks.—B.C. recommended to apply for sanction to borrow £15,068 to proceed with preliminary works for the construction of a bridge over the canal at Oakfield Road.

Barnes, Surrey.—B.C. recommended to approve in principle scheme for the construction of a road between the junction of Station Road and Mill Hill Road and the junction of Mortlake High Street and White Hart Lane.

Bournemouth, Hants.—B.C. to proceed with first section of the town centre by-pass scheme. Estimated cost £100,000.

Bricket Wood, Herts.—C.C. have approved the provision of a footpath between the M.1 link road and Rosedale Close. Estimated cost £7,000.

Brighton, Sussex.—B.C. recommended to submit to M.T. for grant aid, scheme for the improvement of North Street between Ship Street and Bond Street. Estimated cost £21,500.

Bristol.—City Council recommended to apply for sanction to borrow £6,500 for the construction of a service court at Bond Street.

Buxton, Derbyshire.—B.C. recommended to proceed with the preparation of detailed plans for the construction of the Spring Gardens By-Pass. Estimated cost £100,000.

Chelmsford, Essex.—B.C. to proceed immediately with scheme for the construction of the section of the Inner Ring Road between a point in New London Road opposite Friars Place and the junction of Burgess Well Road with Coval Lane, apply for sanction to borrow £15,310 for the extension of the Victoria Road car park.

Colchester, Essex.—B.C. recommended to apply for sanction to borrow £74,000 for the provision of car parks at North Hill and St. Peter's Street.

Colne Valley, Yorks.—West Riding C.C. have approved the widening of a 220yd. stretch of Varley Road, Slaithwaite. Estimated cost £10,000.

Cowes, I. of W.—U.D.C. have approved schemes for the reconstruction of Birmingham Road and Osborne Road. Estimated cost £7,500 and £13,000.

Dorchester.—B.C. recommended to prepare plans for the making-up of the western section of Queens Avenue.

Dulverton, Som.—R.D.C. to proceed with scheme for the provision of a car park in front of Exmoor House. Estimated cost £1,500.

Haslingden, Lancs.—B.C. recommended to prepare plans for the making up of Park Crescent.

Hertford.—B.C. recommended to invite tenders from selected contractors for the construction of a car park at the poultry market.

Isle of Ely.—Highways Committee have approved the erection of a new bridge on or near the site of the existing one at Chain Bridge during 1962/63. Estimated cost £16,000.

King's Lynn, Norfolk.—B.C. recommended to submit to C.C. for approval, scheme for installing lifting barriers in place of the existing swing gates at the Tennyson Avenue level crossing. Estimated cost £6,800.

Leeds.—City Council recommended to apply for sanction to borrow £13,200 for improvement works in Torre Road; to authorise the construction of a footpath to give access from Oiley Old Road to Hospital Lane, Cookridge. Estimated cost £1,500.

Mitcham, Surrey.—B.C. recommended to apply for sanction to borrow £4,525 for the construction of approach road (north) at Grove Farm industrial site.

Newcastle Emlyn, Carm.—U.D.C. have approved plans for the completion of the New Road extension to its junction with the main Cardigan-Carmarthen road. Detailed plans and bills of quantities are to be prepared.

Newport, I. of W.—C.C. to prepare scheme for improving East Street or providing a new road between Snooks Hill and South Street.

North Walsham, Norfolk.—U.D.C. to proceed with the next stage of the Norwich Road improvement scheme. Estimated cost £2,500.

Rishton, Lancs.—U.D.C. to resurface main road between the War Memorial and the Parish Church. Estimated cost £3,336.

Rochdale, Lancs.—B.C. recommended to approve scheme for the widening of Edenfield Road between Churchill Street and Passmonds Garage, estimated cost £38,800; improvement of Prince Street and Hope Street between Hope Chapel and Townhead, £2,950; widening of Heights Lane between Knowsley Street and the Junction with Industry Road, £19,900.

Sheffield.—City Council recommended to approve scheme for modification and improvement of Town Hall Square roundabout. Estimated cost £6,000.

City Engineer to be authorised to make permanent with certain modifications (including the provision of a fountain and other amenity works) the existing temporary traffic roundabout in Town Hall Square, at an estimated cost of £6,000; and carriageway and footpath works in Fargate, £3,000.

Shropshire.—Roads and Bridges Committee considering scheme for a new bridge over the River Severn at Jackfield or Ironbridge.

Skegness, Lincs.—Surveyor to prepare plans for the extension of the Tower Esplanade to the beach.

Stafford.—Divisional Road Engineer to prepare scheme for the construction of a pedestrian subway under the dual carriageway at Stone Road.

B.C. to proceed with plans for improvement of Doxey Road bridge. Estimated cost £169,000.

Staffordshire.—Roads and Bridges committee have approved scheme for improving the Stone to Rugeley Road at Farley Corner, north of Great Harwood, and in principle, scheme for the widening and reconstruction of Eccleshall Road from its junction with the Stafford-Stone trunk road to its connection for the motorway at Creswell. Estimated cost £3,000 and £198,000 respectively.

Roads and Bridges Committee to submit to Ministry for approval and grant aid, scheme for improving the Cellarhead crossroads on the Bucknall to Ashbourne Road. Estimated cost £32,000.

Stockport, Cheshire.—B.C. to prepare scheme for the carrying out of repair works at Adlington Square car park; have approved plans for the making-up of the Hopetale Road group. Estimated cost £9,774.

Sunderland, Dur.—B.C. have approved the construction of the first section of the northern approach to Queen Alexandra Bridge. Estimated cost £16,083.

Swinton and Pendlebury, Lancs.—B.C. recommended to prepare scheme for the resurfacing of Pendlebury Market ground.

Warwick.—B.C. recommended to approve the provision of paths and verges on the private section of Percy estate, estimated cost £10,925; the establishment of a car park on site of former tree nursery in St. Nicholas Park £3,072.

Wigan, Lancs.—B.C. to apply for sanction to borrow £1,575 for resurfacing of play grounds at four schools.

B.C. Streets Committee have approved revised plan for improvement of the Wallgate-Miry-Lane junction.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Aethwy, Anglesey.—Ministry have approved in principle sewerage scheme for the villages of Maltreath, Bethel, Hermon and Llangadwaladr, for R.D.C.

Barrow-in-Furness, Lancs.—B.C. recommended to apply for sanction to borrow £3,630 for stages 1 and 2 of sewage disposal system extension at Park Road, Ormsgill.

Basingstoke, Hants.—R.D.C. have approved the first phase of a scheme for seweraging East Oakley. Estimated cost £59,400.

Berkhamsted, Herts.—D. Balfour and Sons, 131 Victoria Street, London, S.W.1, are the consulting engineers for the sewerage scheme at Potters End. Estimated cost £78,000.

Blackburn, Lancs.—B.C. recommended to invite tenders for diversion of main sewer in Cleaver Street and Syke Street; to apply for sanction to borrow £30,000 for diversion of main sewer in Ainsworth Street from James Street to Holmes Street.

Blaydon, Dur.—U.D.C. considering the erection of sewage disposal works at Blackhall Mill. The consulting engineers are D. Balfour and Sons, 145 Pilgrim Street, Newcastle upon Tyne. Estimated cost £60,000.

Bridgnorth, Salop.—R.D.C. to prepare and submit to Ministry for approval, sewerage and sewage disposal schemes for Chorley and Hilton.

Bridgewater, Som.—B.C. are preparing scheme for improvements to the outfall sewer at the British Cellophane, Ltd., factory in Bath Road. Estimated cost £20,000.

Downham, Norfolk.—R.D.C. to submit to Ministry for approval sewerage and sewage disposal scheme for Denver. Estimated cost £77,250.

Driffield, Yorks.—R.D.C. to lay 120yd. of sewer in Hobman Lane. Estimated cost £1,035.

Evesham, Worcs.—R.D.C. to submit to Severn River Board and C.C. for approval, sewerage scheme for Broadway and Childswickham. Estimated cost £106,500.

Forehoe and Henstead, Norfolk.—R.D.C. have approved revised scheme for sewage disposal works at Surlingham. Estimated cost £3,000.

Haslingden, Lancs.—B.C. recommended to approve scheme for the conversion of the sewage pump at Irwell Vale, comprising the installation of a Vertical Spindle Amphisoma, fully-automatic pump in a dry well, with a new electric motor situated in a motor house immediately over the pump well. Estimated cost £2,350.

Hindley, Lancs.—U.D.C. to apply for sanction to borrow £268,000 for reorganisation of Platt Bridge sewage disposal works and Templeton Pumping Station.

Kington, Herefs.—R.D.C. have approved a revised sewerage scheme for Lyonshall. Estimated cost £37,205.

Loughborough, Leics.—B.C. hope to invite tenders within the next few months for the extension of the sewage disposal works, stage II.

Newcastle, Staffs.—R.D.C. recommended to approve in principle, an extension of the Baldwin's Gate sewerage scheme by laying a sewer across the railway bridge at Whitmore to serve the area immediately north of the line.

Penistone, Yorks.—U.D.C. have approved scheme for replacement of the Springfield sewage disposal works. Estimated cost £125,000.

Scarborough, Yorks.—Borough Engineer has prepared a £75,000 scheme for the reconstruction of the southern outfall sewer.

Shepton Mallet, Som.—R.D.C. have approved in principle site for the proposed Pilton sewerage works.

Skegness, Lincs.—Surveyor has prepared scheme for the piping and filling in of the dyke along the west side of Coronation Walk between Wilford Grove and the main drain near Vine Walk.

Tiverton, Devon.—B.C. recommended to approve scheme prepared by Harvey, McGill and Hayes, consulting engineers, 8 Richmond Road, Exeter, for the provision of sewerage at the industrial site adjoining Bolham Road. Estimated cost £8,000.

Washington, Dur.—U.D.C. have submitted to the Ministry, revised proposals for sewerage surface water drainage and sewage disposal. The Council's consulting engineers are D. Balfour and Sons, 145 Pilgrim Street, Newcastle upon Tyne.

West Lancashire.—R.D.C. recommended to approve provision of sewage disposal schemes for Segars Lane and New Cut Lane. Estimated cost £14,147.

STREET LIGHTING

Chatham, Kent.—B.C. recommended to invite tenders for the erection of columns and lamps for the three-year programme of conversion of street lighting from gas to electricity.

Desborough, Northants.—U.D.C. have approved a lighting scheme for Union Street, Victoria Street, Gold Street and Braybrooke Road. Estimated cost £1,750.

Mansfield Woodhouse, Notts.—U.D.C. have approved the provision of street lighting on several private housing estates during this year. Estimated cost £2,118.

Portsmouth.—City Council recommended to apply for sanction to borrow £20,280 for the 1961-62 street lighting programme.

Scarborough, Yorks.—B.C. recommended to apply for sanction to borrow £49,000 for improvement and conversion from gas to electricity of public street lighting.

CONTRACTS

Full details of the Contracts marked * will be found in our Advertisement Columns.

BUILDING AND DECORATING

(See also Housing Schemes)

Abingdon, Berks.—Erection of two shops, two one-bedroom flats, four two-bedroom flats and works incidental thereto on Kennington estate, for R.D.C. Documents from Council's Surveyor, Council Offices, 60 Bath Street, Abingdon. Deposit £3. Tenders by Aug. 18.

Ashton-under-Lyne, Lancs.—Extension to the Veterans' Pavilion, King George's Playing Fields, for B.C. Documents from the Borough Surveyor, Municipal Offices, Ashton-under-Lyne. Tenders by August 14.

Atherstone, War.—Exterior painting of 70 houses at Westwood estate, for R.D.C. Docu-

ments from Engineer and Surveyor, Council Offices, Atherstone. Deposit £2 2s. Tenders by Sept. 4.

Ballymoney, Antrim.—External decoration of 31 houses at Eastermeade Gardens, for U.D.C. Documents from R. Robinson and Sons, Riada House, Ballymoney. Tenders by Aug. 3.

Banbridge, Down.—Construction and completion of new office building at Castlewellan Road, Banbridge, for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast, 1. Deposit £5. Plans seen at Ministry of Labour and National Insurance Local Office, Castlewellan Road, Banbridge. Tenders by August 24.

***Bradford, Yorks.**—Store shed for City Council. Tenders by September 1.

Brixham, Devon.—Exterior painting of the Town Hall for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Brixham. Tenders by Sept. 12.

Bullington, Oxon.—Sanitary and drainage works to two cottages at Stoke Talmage, for R.D.C. Applications to Engineer and Surveyor to the Council, 76 Banbury Road, Oxford, by July 29. Deposit £2 2s.

Bury, Lancs.—External painting of dwelling houses 6, 10, 14 and 16 Tenterden Street, for B.C. Documents from Borough Engineer, Town Hall, Bury. Tenders by Aug. 12.

Bury, Lancs.—External painting of the Town Hall, for B.C. Documents from Borough Engineer, Town Hall, Bury. Tenders by Aug. 26.

Camberwell.—Supply and erect a garage for B.C. Tenders by Aug. 15.

Coventry.—Erection of extension to Foleshill Community Centre to form youth centre for City Council, including accommodation, in traditional construction, comprising a hall, 60ft. by 30ft., changing rooms and office. Applications to the City Architect and Planning Officer, Council House, Coventry, by Aug. 1. Deposit £2 2s., payable to Corporation. Tenders by Sept. 25.

Crayford, Kent.—Erection of a pavilion at Mayplace Playing Fields, for U.D.C. Applications, with details of other recent contracts, to the Engineer and Surveyor, Town Hall, Crayford, by July 31.

Croydon, Surrey.—Alterations and adaptations at the St. Giles' Special School, Featherbed Lane, Addington, for B.C. Documents from Chief Education Officer, 19 Katharine Street, Croydon. Tenders by Aug. 29.

Dundee.—Following trades for new bathroom, scullery, etc., at Lochie Park Lodge, Ancrum Road, for City Council: (1) excavator, concretor and brick work; (2) carpenter, joiner, ironmonger and glazier work; (3) plaster work; (4) plumber work; (5) roughcast work; (6) electric light installation. Documents from the City Quantity Surveyor, 21 City Square, Dundee. Tenders by Aug. 9.

Durham.—Consett Police Station—alterations and improvements, for C.C. Applications to County Architect, South Street, Durham, by August 2.

Evesham, Warks.—Interior redecoration works at the Public Hall for B.C. Documents from J. Hodson, borough surveyor, 106 High Street, Evesham. Deposit £2 2s. Tenders by Aug. 10.

Glamorgan.—Applications are invited from contractors (not already on the list) wishing to be placed on the County Council's list of approved contractors who will be invited to tender from time to time for County building projects. Four lists will be maintained namely (a) list A for works estimated to cost more than £50,000; (b) list B for works estimated to cost between £15,000 and £50,000; (c) list C for works estimated to cost between £1,500 and £15,000; and (d) list D for works estimated to cost less than £1,500. Applications to Richard John, clerk of the Glamorgan County Council, County Hall, Cardiff, by August 31. Applicants should specify whether they wish to be entered on one or more of the said lists.

Goole, Yorks.—Painting of houses in the following parishes, for R.D.C.: Adlingfleet (4); Ousefleet (4); Whitgift (4); Reedness (22); Swinefleet (26); Goole Fields (8); Hook (22); and Airmyn (16). Documents for all or part of the works from the Surveyor, Goole Rural District Council, 149, Boothferry Road, Goole. Tenders by August 21.

Grantham, Lincs.—External painting of 415 houses in four groups, for B.C.: (a)—45 dwellings; (b)—69; (c)—77; (d)—224. Contractors may tender for all or any group of dwellings. Documents for the Borough Engineer and Surveyor, Guildhall, Grantham. Tenders by August 8.

Halifax, Yorks.—External painting of 28 Spooner-type houses for B.C. Documents from the Borough Engineer, Crossley Street, Halifax. Deposit £1, cheques payable to Corporation. Tenders by Aug. 7.

Heywood, Lancs.—External painting of the Market Hall, Hind Hill Street, for B.C. Documents from A. Middleton, borough engineer

and Surveyor, Municipal Buildings, Heywood. Deposit £1 1s. Tenders by Aug. 4.

Holland.—Erection of workshop accommodation at the Weights and Measures Department, Holland Road, Spalding, for C.C. Documents from the County Architect, County Hall, Boston. Tenders by Aug. 14.

***Huddersfield, Yorks.**—Installation of various items at aged persons' home for B.C.

Huntingdonshire.—Part internal redecorations at Huntingdon C.P. School, for Co. E.C. Documents from S.M. Holloway, county architect, County Buildings, Huntingdon. Tenders by August 2.

Huyton-with-Roby, Lancs.—Erection of nine shops and six flats in one two-storey block, together with ancillary external works, on the St. John's Road (East) estate for U.D.C. Documents from the Architect and Housing Director, Grasscroft, Archway Road, Huyton. Deposit £2 2s. Tenders by Sept. 4.

Iford, Essex.—Construction of a bowls pavilion in Valentines Park for B.C. Applications, in writing, to the Borough Engineer, Town Hall, Ilford. Deposit £2 2s. Tenders by Aug. 22.

***Isle of Ely.**—Workshop unit and drill tower at County Fire Headquarters for C.C. Apply by Aug. 12. Deposit £2 2s. Tenders by Sept. 25.

Isle of Wight.—Following for C.C.: (a) Adaptations at the Grove Road Premises, Sandown, I. of W.—conversion of former grammar school into a junior school; (b) erection of new secondary modern school at Pell Lane, Ryde, I. of W., in steel framing and load-bearing brickwork on 1-4 floors and having a floor area of approximately 40,700 super. ft. Applications to the County Architect, County Hall, Newport, I. of W., by Aug. 14. Deposit £2 2s. each project, payable to Council. Tenders by Sept. 20.

Kirrier, Corn.—Improvements to houses on the undermentioned estates, for R.D.C.: Coronation cottages, Budock—six houses; coronation cottages, Mabe—six houses; Viaduct View, Ponsanooth—10 houses. Applications from C.R. Corfield and Son, architects, Strand Chambers, 9 Killigrew Street, Falmouth. Deposit £1 1s. Tenders by August 21.

***Kingwood, Som.**—Thirty-three garages for U.D.C. Deposit £10. Tenders by August 14.

Lancashire.—Following for C.C.: Erection of police house, section station and garage, at Thornton Cleveleys; extensions to the Skelmersdale C.E. School, work includes erection of single-storey building in traditional construction, drainage, services and finishes; adaptation of the Central Methodist Hall, Eccles, to form a youth centre, work includes internal and external repairs, macadam paving, pointing, services, etc. Applications to the County Architect, P.O. Box No. 26, County Hall, Preston, by July 31.

Lancashire.—Repainting brickwork and stonework at the Accrington Girls' High School, for C.C. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by July 31.

***Lincoln.**—Home for the elderly, Ermine estate, for City Council. Deposit £2 2s. Tenders by Sept. 4.

Lindsey.—Erection of a fire and ambulance station and station officer's house, Laneham Street, Scunthorpe, for C.C., containing about 16,000 super. ft. floor area in one- and two-storey blocks. Period of contract will be 15 months. Documents from A. Ronald Clark, county architect, County Offices, Lincoln. Deposit £5 5s. Tenders by Sept. 5.

Lindsey.—Erection of a library and VI form room at the Grammar School, Spilsby, for C.C. Documents from A. Ronald Clark, County Architect, County Offices, Lincoln. Tenders by Sept. 6.

Liskeard, Corn.—Provision of Rayburn cookers, hot water systems, internal water closets, piped water from well by electric pump, together with other improvements to 3 and 4 Bucklawren Road, No-Man's-Land, for R.D.C. Documents from the Surveyor, Council Offices, Luxstowe House, Liskeard. Tenders by Aug. 18.

Liverpool.—Vyrnwy Aqueduct. Exterior painting and internal decoration of properties, for City Council. Documents from Water Engineer, 55 Dale Street, Liverpool 2, or Resident Engineer, Llanford Filter Beds, Oswestry, Salop. Tenders by September 4.

Llanelli, Carmarthen.—External and part internal painting of offices at Penyfai, for South West Wales River Board. Documents from the Board's Engineer, Penyfai House, Penyfai Lane, Llanelli. Deposit £2 2s. Tenders by August 12.

Machynlleth, Mont.—External painting of 62 houses at Tregarr for U.D.C. Applications to B. Brooks Evans, surveyor, Plas, Machynlleth, by Aug. 5.

Malvern, Worcs.—Extensions to Board's workshop at Hall Green, Malvern, for Severn River Board. Work includes completion of the extensions to the Board's workshop requiring approximately 40,000 bricks and

other traditional building materials. Documents from Engineer to the Board, Portland House, Church Street, Malvern. Deposit £2 2s. Tenders by Aug. 11.

Marlborough and Ramsbury, Wilts.—Following, for R.D.C.: Five bungalows, Fairmount, Shalbourne; improvements to 16 houses, 65 to 80 Church Street, Great Bedwyn; improvements to four houses 6, 7, 8 and 9 Jockey Green, Great Bedwyn. Documents from the Surveyor, R.D.C. Offices, London Road, Marlborough. Tenders by August 14.

Meriden, War.—Following external repainting works for R.D.C.: (Contract 167) Balsall, Barston, Berkswell, Meriden and Fillongley—92 dwellings plus 11 garages; (168) Castle Bromwich and Curdworth—55 dwellings plus 20 garages; (169) Hampton-in-Arden and Bickenhill—92 dwellings plus 32 garages; (170) Coleshill—105 dwellings plus 33 garages; (171) Coleshill—Old Bank House and extensions. Documents from the Engineer and Surveyor at the Old Vicarage, Coleshill. Deposit £2 2s. Tenders by Aug. 14.

Norfolk.—Erection of a house, two sets of brick and asbestos farm buildings and demolition of existing premises, in one contract, at Outwell, near Downham Market, for C.C. Applications to the County Land Agent, 20 Hill House Road, Norwich, Norfolk (Nor. 34S), by Aug. 1.

Northamptonshire.—Brackley Secondary Modern School—four additional rooms in two-storey load-bearing brickwork. Contractors wishing to tender for: (a) Erection; or (b) heating installation, are asked to apply to the County Architect, County Hall, Northampton, by July 31.

Northumberland.—Erection of a police house and office at Longframlington for C.C. Applications to the County Architect, 30-32 Great North Road, Newcastle upon Tyne, 2, by Aug. 3.

Nuneaton, War.—Conversion of The Gables, 31 Lutterworth Road, into three self-contained flats for B.C. Documents from George Eastwood, architect, 2 Bond Gate, Nuneaton. Deposit £1 1s. Tenders by Aug. 21.

Nuneaton, War.—Extensions to two shops at 41 and 45 Bradestone Road, Caldwell estate, for B.C. Documents from the Borough Surveyor, Council House, Nuneaton. Deposit £1 1s. Tenders by Aug. 28.

Omagh, Tyrone.—Painting of the interior of the concert hall in the Town Hall for U.D.C. Documents from the Town Surveyor, Town Hall, Omagh. Tenders by Aug. 10.

Peterborough.—Alterations necessary to convert an existing building into a cloakroom and toilet at St. John Close, Thorpe Road, for C.C. Documents from the County Surveyor, County Offices, Bridge Street, Peterborough. Deposit £2 2s. Tenders by Aug. 1.

Portsmouth.—Modernisation of following pre-war flats, Portsea, for City Council: King Street (47-58 consecutive)—12 flats; King Street (59-70 consecutive)—12 flats. Applications to Director of Housing, 1 Clarence Parade, Southsea, by Aug. 4. Deposit £1 1s.

Pudsey, Yorks.—(1) The internal redecoration; and (2) the external painting of Albert Hall for B.C. Documents from the Borough Surveyor, Town Hall, Pudsey. Tenders by Aug. 12.

Rochdale, Lancs.—External painting of the Cleansing Department, Entwistle Road, for B.C. Documents from Borough Surveyor's Offices, Town Hall, Rochdale. Tenders by Aug. 7.

Rothes, Moray.—External repainting of three blocks of houses, for B.C. Documents from the office of the Burgh Architect, 41 Moss Street, Elgin. Tenders by August 25.

Rothes, Moray.—Re-harling of houses at 82-88 High Street, for B.C. Documents from the office of the Burgh Architect, 41 Moss Street, Elgin. Tenders by August 25.

Rugby, War.—External painting of (a) 147 dwellings, Hillmorton 1 estate, and (b) 115 dwellings (B.I.S.F.) Overslade estate, for B.C. Tenders will be considered for either one or both of the groups. Documents from the Housing Manager, Town Hall, Rugby. Deposit £2 2s. Tenders by Aug. 10.

Rushden, Northants.—Alterations, consisting mainly of joinery and redecoration, to be carried out at the Public Library for U.D.C. Documents from the Engineer and Surveyor, Council Buildings, Rushden. Tenders by Sept. 1.

Rutland.—Construction of phase II of Uptingham C.E. Primary School, consisting of five classrooms, assembly and dining halls, kitchen and ancillary accommodation, for C.C. Documents from the office of the County Architect and Planning Officer, County Offices, Catmose, Oakham. Tenders by Aug. 14.

Smethwick, Staffs.—Extensions to kitchen at Rolfe Street Fire Station for B.C. Written applications to the Borough Engineer and

Surveyor, Council House, Smethwick. Deposit £2 2s., cheque payable to Borough Treasurer. Tenders by Sept. 12.

Southend-on-Sea, Essex.—Proposed car ferry unit extension at Municipal Airport, Rochford, for B.C., comprising demolition of existing buildings, erection of a mainly two-storey car ferry and office building of steel-framed construction, with metal deck floor and flat roof, timber-clad external walls, a total floor area of about 11,000 super. ft., and works incidental thereto. Applications to the Borough Architect, 30 Alexandra Street, Southend-on-Sea, by Aug. 4, accompanied by details of similar works previously undertaken and names of Architects from whom references may be obtained.

Sunderland, Dur.—Extensions to Fulwell Fire Station for B.C. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Deposit £2 2s., cheques payable to Corporation. Tenders by Aug. 14.

Sunderland, Dur.—Following for B.C.: (a) Hylton Red House Community Centre—supply and laying of hardwood strip, lino tile and quarry tile flooring; (b) Hylton Red House Comprehensive School—supply and installation of a cold room, approximate capacity, 330 cu. ft. Documents from Borough Architect, Grange House, Stockton Road, Sunderland. Tenders by Aug. 17.

Swansea.—Erection of a café and public convenience at Bracelet Bay, Mumbles, for B.C. Applications to the Borough Architect, The Guildhall, Swansea, by Aug. 4. Deposit £5, payable to Borough Architect. Work on site is estimated to start in Oct.

Swansea.—Erection of the hall of residence at the Swansea Training College, for B.C. Applications to the office of the Borough Architect, The Guildhall, Swansea, by August 18. Deposit £5.

Taunton, Som.—Provision of wash-hand basins and flush lavatories, together with the necessary drainage work, at 1 to 4 Cheads Cottages, Creech St. Michael, for R.D.C. Documents from the Surveyor, Mary Street House, Taunton. Tenders by Aug. 15.

Thingoe, Suffolk.—Modernisation of 11 houses, Bardwell Road, Barnham, and 12 houses in three groups of four in Thelnetham for R.D.C. Documents from the Engineer and Surveyor, 1 Northgate Street, Bury St. Edmunds. Tenders by Sept. 1.

Wakefield, Yorks.—Carrying out extensions to the pharmacy department at Pinderfields General Hospital, Abergord Road, for Leeds Regional Hospital Board. Applications to the Architect to the Board, Park Parade, Harrogate, by Aug. 2. Deposit £2 2s., cheques payable to the Board. Plans also seen at the office of J. G. L. Poulsen, chartered architects, 29 Ropergate, Pontefract. Tenders by Aug. 17.

West Riding.—Part internal redecoration of the Home for the Aged, Hillworth Lodge, Keighley, for C.C. Applications to the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate. Tenders by Aug. 21.

West Riding.—Internal and external painting work at Dewsbury and Batley Technical and Art College (Batley premises) for C.C. Documents from the Divisional Architect, Bishopsgarth, Westfield Road, Wakefield. Tenders by Aug. 22.

West Riding.—External painting and internal redecoration of the Shipley Police Station for C.C. Applications to the Divisional Architects, Salisbury Buildings, Albert Street, Harrogate. Tenders by Aug. 25.

West Riding.—Following works for C.C.: (1) Provision and erection of chain link fencing at Wombwell Secondary School; (2) internal and external painting work at Dewsbury and Batley Technical and Art College (Batley premises); (3) renewal of central heating boiler at Morley Elmfield Secondary School; (4) renewal of heating stoves at Aberford Parlington Secondary School; (5) improvements to Berry Lane, Horbury, to form an access road to the new Horbury Secondary School (building and civil engineering contractors only); (6) erection of one pair of semi-detached houses, together with drainage and site works, at the Yorkshire (W.R.) Institute of Agriculture, Askham Bryan; (7) provision and erection of a prefabricated asbestos building on a brick and concrete base at the Bingley Secondary School. Applications for contracts 1, 2, 3 and 4 to the Divisional Architect, Bishopsgarth, Westfield Road, Wakefield, and for contract 5 to the County Architect, Bishopsgarth, Westfield Road, Wakefield, and for contract 7 to the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate. Applications for contract 6 must be addressed to the County Architect, Bishopsgarth, Westfield Road, Wakefield, by Aug. 4. Tenders by Aug. 22.

West Sussex.—Internal adaptations and improvements at Budgenor Lodge, Midhurst (job 7264), for C.C. Applications to the County Architect, County Hall, Chichester, by August 1.

West Sussex.—Following for C.C.: (a) Three class instalments of new primary school at South Bersted, near Bognor Regis (job 6379);

(b) one block of two semi-detached houses at St. Cuthman's School, Midhurst (job 6824). Applications to the County Architect, County Hall, Chichester, by August 2.

CLOTHING AND TEXTILES

Bury, Lancs.—Supply of 95 proofed navy blue melton coat jackets and two foremen's navy blue melton overcoats for B.C. Documents from Director of Public Cleansing, Town Hall, Bury. Tenders by Aug. 12.

Lancashire.—Supply of 6,200 white cotton cross-over overalls, for C.C. Documents from the County Medical Officer of Health, Room 109, East Cliff County Offices, Preston. Tenders by August 5.

Warwickshire.—Supply of uniform clothing, etc., for the year 1962 for Constabulary. Applications to the Chief Constable, Chief Constable's Office, P.O. Box 4W, Warwick, by Sept. 2.

DEMOLITION

Bradford on Avon, Wilts.—Demolition of the following properties for U.D.C.: 7, 8, 9, 10 and 11 Tory Place; 10 and 11 Wine Street; 17, 18 and 19 Ashley Road; 1, 2, 3, 4 and 5 Vine Cottages. Documents from Clerk of the Council, Westbury House, Bradford on Avon, Wilts. Tenders by Aug. 11.

Bury St. Edmunds, Suffolk.—Demolition of houses 15, 16, 17, 19, 20, 21, 22, 23, 24 School Terrace, Eastgate Street, for B.C. Documents from the Borough Engineer and Surveyor, Borough Offices, Bury St. Edmunds. Deposit £2 2s. Tenders by Aug. 11.

Ealing, Middx.—Demolition works for B.C. Tenders by Aug. 8.

Mold, Flint.—Demolition of Bro Alun Bungalow, Bro Alun, Mold, for U.D.C. Applications to C. R. Cresswell, public health inspector, Town Hall, Earl Road, Mold. Tenders by Aug. 11.

Ramsgate, Kent.—Dismantling and removal of the swing bridges over the Western dock gates at the Royal Harbour, for B.C. Documents from the Borough Engineer and Surveyor, Municipal Buildings, Ramsgate. Deposit £2 2s. Tenders by August 15.

Truro, Corn.—Demolition of 10, John Street, 6-11, George Street and 19 Castle Street, 1, 2, 3, 16, 17, 18, Little Union Street, and for clearing the sites, for City Council. Documents from S. John O'Farrell city engineer and surveyor, Municipal Buildings, Truro. Tenders by August 4.

Watford, Herts.—Demolition and site clearance, together with other ancillary works, at 10-17 Carey Place, for B.C. Applications to F. C. Sage, borough engineer and surveyor, Town Hall, Watford, by 2 p.m., Aug. 2.

Weymouth and Melcombe Regis, Dorset.—Demolition and site clearance of buildings, plant and machinery in a portion of the gasworks site, Weymouth, for B.C. Applications to the Borough Engineer, Town Bridge House, Weymouth, by Aug. 5.

ELECTRICAL

Belfast.—Complete electrical installation at proposed diagnostic centre and caretaker's residence at Greenwood House, Upper Newtowndale Road, for City Council. Documents from the City Architect's Department, 40 Academy Street, Belfast, 1. Tenders by August 4.

Birmingham.—Inspection and maintenance of the electric passenger lifts which have been installed by various lift manufacturers at multi-storey flatted estates, for the period 1st September, 1961, to 31st August, 1962, for City Council. Applications, in writing, to J. P. Macey, housing manager, Housing Management Department, Bush House, Broad Street, Birmingham, 1. Tenders by July 31.

Breconshire.—Electrical installation at five-stream school for C.C. Apply by Aug. 8. Deposit £2 2s.

Bury St. Edmunds, Suffolk.—Inspection of the electrical installation of 65 temporary bungalows for B.C. Documents from the Borough Engineer and Surveyor, Borough Offices, Bury St. Edmunds. Tenders by Aug. 28.

Cardiff.—Supply, delivery and installation of an electrically operated service lift at the Canton sub divisional police station, now under construction, for City Council. Documents from the City Architect's Department, Municipal Offices, Friars Road, Cardiff. Deposit £2 2s. cheques payable to Corporation. Tenders by September 5.

Cookstown, Tyrone.—Installation of electric wiring in (a) 10 houses at Annaghmore, Coagh, and (b) 20 labourers' cottages situated throughout the rural district for R.D.C. Documents from James McCammon, clerk to the Council, The Boardroom, Cookstown. Tenders by Aug. 7.

East Riding.—Installation of electrical services to the proposed county secondary

school at Fulford, near York, for C.C. Applications to the County Architect, County Hall, Beverley. Tenders by Aug. 10.

Ely, Cambs.—Electrical equipment of permanent dwellings to be erected at Littleport (six bungalows), Mepal (two bungalows), Stretham (four bungalows), Little Thetford (three bungalows), and Wilburton (three bungalows), for R.D.C. Documents from W. Clifford Jones, engineer and surveyor, 11 Lynn Road, Ely, and applicants should state the scheme(s) for which such material is desired. Tenders by August 8.

Haslingden, Lancs.—1961/62 programme for the re-wiring of power circuits and incidental work to 20 houses and eight flats at Cedar Avenue, for B.C. Documents from the Borough Surveyor, Municipal Offices, Bury Road, Haslingden. Tenders by August 18.

Heston and Isleworth, Middx.—Electrical rewiring etc., for B.C. Tenders by August 21.

Ilkley, Yorks.—Complete rewiring of 65 houses for U.D.C. Documents from the office of the Engineer, Chantry Drive, Ilkley. Tenders by Aug. 21.

Londonderry.—Supply and erection at Coolkeeragh Power Station, of one set of hydrazine hydrate dosing equipment, for the Electricity Board for Northern Ireland. Documents (specification N.I.1627), in quadruplicate from Kennedy and Donkin, the Board's consulting engineers, 64 Royal Exchange, Manchester, 2, by August 4. Deposit £5 5s., cheques payable to the Electricity Board for Northern Ireland. Tenders by September 25.

Manchester.—Supply, delivery, erection and commissioning of an announcement system to serve the new terminal building, Manchester Airport, for City Council. Documents from the City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by Aug. 8.

Omagh, Tyrone.—Complete electrical installations to main contract at Tyrone and Fermanagh Hospital for Northern Ireland Hospitals Authority. Documents from W. H. McAlister and Partners, 9 Ferryquay Street, Londonderry. Tenders by Aug. 14.

Spilsby, Lincs.—Installation of light and power points in the following Council houses for R.D.C.: 1-6 Small End, Friskney; 1-4 Dickon Hill, Friskney; 1, 2 and 4 Field Lane, Friskney; 1-4 Hobhole Bank, Midville; and 1-5a The Rookery, New Leake. Submit names to G. F. Taylor, engineer and surveyor, Council Offices, Toynton Hall, Spilsby. Tenders by Aug. 1.

Taunton, Som.—Electrical rewiring of 132 houses, Lambrook estate, and 54 houses Wedlands estate for B.C. Documents for one or both of the works from H. G. Cox, housing maintenance superintendent, Lambrook Farm Depot, Priory Avenue, Taunton. Tenders by Aug. 9.

Tyrone.—Plumbing and electrical work in the caretaker's residence at Omagh Secondary Intermediate School, for C.C. Documents from W. H. McAlister and Partners, 9 Ferryquay Street, Londonderry. Tenders by July 31.

FENCING

Belfast.—Supply and delivery of 198 lin. yd. approximately of concrete post and panel fencing, for City Council. Documents from City Surveyor's Department (Room 84), City Hall, Belfast, 1. Tenders by August 3.

Carshalton, Surrey.—Supply and erection of approximately 45 lin. yd. of 6ft. high corrugated iron fencing on concrete posts, 17 lin. yd. of 4ft. high chain link fencing on angle-iron posts, 70 lin. yd. of 6ft. high chain link fencing on concrete posts, together with necessary gates, at Mill Lane, for U.D.C. Documents from the Office of the Engineer and Surveyor, Stone Court, The Grove, Carshalton. Tenders by August 3.

Harrow, Middx.—Erection of boundary and garden fences, front, side and rear entrance gates and close boarded screens and gates at the following, for B.C.: (1) Glebe estate, Stanmore, Middlesex (approximately 4,800yd. run woodland fencing); (2) Weald Lane estate, Harrow Weald, Middlesex (approximately 1,160 yard run woodland fencing); (3) Elm Grove estate, Harrow, Middlesex (approximately 5,600 yd. run woodland fencing). Documents from J. H. Melville Richards, borough engineer and surveyor, Council Offices, Cottesmore 48, Uxbridge Road, Stanmore. Deposit £2 each, cheques payable to Corporation. Tenders by September 5.

Hertfordshire.—Supply and erection of 926 lin. yd. of concrete post and wire fencing, and one 12ft. tubular steel gate, at Redbourn Lane, Harpenden, for C.C. Documents from the office of the County Surveyor, County Hall, Hertford. Tenders by Aug. 2.

Staffordshire.—Snow fencing, for C.C. Tenders by August 18.

Widnes, Lancs.—Erection of 1,600yd. of concrete fencing on the Kingsway estate, for B.C. Documents from the Housing Manager, Town Hall, Widnes. Deposit £2 2s. Tenders by August 30.

GAS AND WATER SUPPLY

Belfast.—Complete plumbing installation, at proposed diagnostic centre and caretaker's residence at Greenwood House, Upper Newtownards Road, for City Council. Documents from the City Architect's Department, 40 Academy Street, Belfast, I. Tenders by August 4.

Blackpool, Lancs.—Sinking of one 8in. diameter and three 18in. diameter boreholes in the Dunsop Valley, forest of Bowland, Yorks W.R., for Fylde Water Board. Documents from the Engineer, Fylde Water Board, Sefton Street, Blackpool. Tenders by September 11.

***Braintree and Bocking, Essex.**—Cocham Mill water scheme, contract 5, for U.D.C.

Bridgwater, Som.—Construction of extensions to the existing Ashford water treatment works and distribution system, as follows, contract 12, for B.C.: (a) A building housing two micro-strainers, three horizontal pressure filters, chemical dosing plant and pumps, and including the supply and installation of the mechanical plant and equipment; (b) the supply and installation of new pumps in the existing pumping station; (c) extension to the existing service reservoir at Danesborough; (d) the laying of approximately 4,400 lin. yd. of 15in. diameter spun-iron pumping and distribution mains and approximately 600 lin. yd. of 18in. to 9in. diameter spun-iron mains at the treatment works, together with access roadway, boundary fencing, and other appurtenant works. Documents from John Taylor and Sons, consulting engineers, Artillery House, Artillery Row, Victoria Street, Westminster, S.W.1. Deposit £10 cheque only, payable to Council. Drawings seen at the Offices of the Consulting Engineers or at the Offices of the Borough Engineer, Surveyor and Water Engineer, Town Hall, Bridgwater, and prints may be purchased from the Consulting Engineers on application. Tenders by August 22.

Bury, Lancs.—Clarence Reservoir improvement for B.C., comprising approximately 450 lin. yd. of mass concrete retaining wall, footpaths, and ancillary works. Documents from Borough Engineer, Town Hall, Bury. Deposit £2 2s. Tenders by Aug. 9.

Bury, Lancs.—Haslingden grane filtration scheme, for Irwell Valley Water Board, including the construction of sedimentation tanks, filter house, storage reservoirs, and ancillary works for a rapid gravity filtration plant near Haslingden to deal with 4 m.g.d. Documents from the Engineer and Manager, Parsons Lane, Bury. Deposit £10. Tenders by August 28.

Cardiff.—Llandegfedd Water Scheme—section B, contract B.1, for City Council, including the construction of a river intake and pumphouse near Usk, Monmouthshire, and a pumphouse near the foot of the dam of Llandegfedd Reservoir (now under construction) between New Inn and Common Coed-y-paen, also in Monmouthshire, comprising the following works: River intake, reinforced concrete construction in the bank of the River Usk; Usk pumphouse, reinforced concrete and brick building with concrete and barrel vault roof, together with ancillary site works, roads, drains, etc.; Sor pumphouse, reinforced concrete and brick building with concrete and barrel vault roof, together with ancillary site works, roads, drains, etc. Applications to the Engineer, at Sluad, Panteg, near Pontypool, Mon. Deposit £10 10s., cheques payable to Corporation. Tenders by August 23.

Chepstow, Mon.—Erection of a chlorinating house in Chepstow Forest Park, for Newport and South Monmouthshire Water Board. Documents from the Engineer and Manager, Royal Chambers, High Street, Newport, Mon. Tenders by July 31.

Cork, Eire.—Making of a 6in. bore and ancillary works at Comillane, Cape Clear Island, for C.C. Documents from the County Engineer's office, Courthouse, Skibbereen. Deposit £3. Tenders by August 5.

Droitwich, Wores.—Following for R.D.C.: Water supply—Parish of Hartlebury, Cross-Way Green extension. Work includes laying of some 5,250yd. of 4in. and 3in. cast-iron water mains together with valves, fire hydrants. Written applications to Surveyor, R.D.C. Offices, Ombersley Street, Droitwich. Deposit £2 2s. Tenders by Aug. 14.

Dungannon, Tyrone.—Regional water distribution scheme, contract W/61/1, for R.D.C., comprising the supply and laying of 10,200 lin. yd. of 2in. diameter p.v.c. and 13,100 lin. yd. of 3in. diameter spun iron water mains. Documents from the Council Offices, Dungannon. Deposit £3 3s. Tenders by August 8.

Dungannon, Tyrone.—Regional water scheme contract 4, for R.D.C., including the construction of service reservoirs at Mulagh-anagh, Cabra, Carlisle and Leglly of 100,000 gallons, 200,000 gallons, 100,000 gallons and 50,000 gallons capacity respectively, together with access roads, paths, inlet and outlet pipe-work and other ancillary works. Documents from the Offices of the Dungannon Rural District Council, Dungannon. Deposit £3 3s. Tenders by August 16.

Enniskillen, Fermanagh.—Supply and installation of electrically operated water pumping equipment, together with indicating, integrating and recording meters and other equipment required in connection with the headworks of the Council's water scheme at Marble Arch for R.D.C. Documents from W. D. R. and R. T. Taggart, consulting engineers, 13 College Gardens, Belfast, 9. Tenders, covering only portion of the equipment specified, will not be considered by the Council. Tenders by Aug. 21.

Glasgow.—Several works for the demolition of one steam triple expansion pumping unit, one steam bilge pumping unit, and the supporting members to two steam triple expansion units, comprising c.i. beams, struts, decking panels, etc., and for the construction of supporting steelwork for walkways, pump motors, and the construction in concrete of supporting plinths and flooring at Partick Pumping Station for City Council. Documents from the Office of Public Works, Room 81, City Chambers, Glasgow, C.1. Deposit £2 2s. each schedule. Tenders by Aug. 7.

Herefordshire.—Supplying and laying of approximately 7,000yd. of 3in. and 4in. diameter s.i. water mains and fittings in the Bush-Bank Birley area in the rural district of Wooley (contract 35) for Water Board. Applications, in writing, to John H. Haiste and Partners, consulting engineers, 8-10 Southgate Street, Gloucester. Deposit £3 3s., payable to the Board. Plans also seen by appointment at the Board's Offices, Reay House, 49 Bodenham Road, Hereford. Tenders by Aug. 11.

Huntingdon, Hunts.—Laying and jointing of approximately 250yd. of 3in. diameter asbestos-cement water mains with screwed joints, together with ancillary works, at Brampton for R.D.C. Documents from Pick, Everard, Keay and Gimson, consulting engineers, 6 Millstone Lane, Leicester. Deposit £2 2s. Tenders by Aug. 16.

Kidderminster, Wores.—Laying of water mains in the parishes of Chaddesley Corbett and Stone for R.D.C., involving approximately 4,910 lin. yd. of 4in., 3in. and 1½in. diameter asbestos-cement water mains, with ancillary works and fittings. Documents from the office of the Engineer and Surveyor, Council Offices, Land Oak House, Kidderminster. Deposit £3 3s. Tenders by Aug. 14.

Kidderminster, Wores.—Laying water mains in the parishes of Rock and Upper Arley, for R.D.C. Deposit £3 3s. Tenders by August 21.

Kilkenny, Eire.—Bennettsbridge temporary water supply scheme, for C.C., including the supply and delivery, and/or erection and installation of a pressure-controlled pumping installation comprising an electrically-driven pump, and pneumatic tank complete with control gear. A standby pumping set is included provisionally. The pump shall be capable of delivering 1,000 gallons per hour against an estimated maximum head of approximately 70ft. It also provides for pipework within the pump-house suction pipes, automatic control gear and the electrical installation. Documents from Ed. Ralph Ryan, consulting engineer, 1 Montpelier Terrace, Galway. Deposit £10 10s. Tenders by August 5.

Letterkenny, Donegal, Eire.—Construction of a water scheme at Letterkenny for U.D.C. Documents from B. J. O'Grady, town clerk, Urban District Council Office, Letterkenny. Deposit £5. Tenders by Aug. 12.

Masham, Yorks.—Separate tenders for following for R.D.C.: (a) Provision and laying of approximately 5,900 lin. yd. of 6in., 4in. and 3in. asbestos-cement water mains, valves, etc., in the parishes of Fearnby, Swinton and Masham, Yorks; (b) construction of a reinforced concrete reservoir of 90,000-gallon capacity near Fearnby Cross, Masham. Documents from Fairbank and Son, consulting engineers, 29 St. Mary's, York. Deposit £3 3s., cheque payable to Council. Tenders by July 31.

***Peterborough.**—Construction of reservoir, etc., for R.D.C. Deposit £2 2s. Tenders by Sept. 1.

Pocklington, Yorks.—Construction of approximately 2,000 lin. yd. of 6in. diameter water main from Ousethorpe to the service reservoir (contract 18) for R.D.C. Documents from John H. Haiste and Partners, consulting engineers, Belmont House, 20 Wood Lane, Headingley, Leeds, 6. Deposit £3 3s., cheque payable to R.D.C. Tenders by Aug. 11.

St. Helens, Lancs.—Internal gas carressing to 24 bungalows at Hoghton Road, Sutton, contract 2158, for B.C. Documents from M. Ward, borough engineer and surveyor, Town Hall, St. Helens. Plans seen at the Architectural Department, 5 Coatham Street, St. Helens. Tenders by July 31.

Sandford, Suffolk.—Water mains extensions at Sproughton, East Bergholt and Raydon, for R.D.C., including approximately 3,510yd. of 3in. diameter asbestos cement water mains in the above parishes. Documents from the Water Engineer, 25 London Road, Ipswich. Tenders by August 10.

Slaidburn, Yorks.—Stocks Filters, Slaidburn, for the Fylde Water Board: (1) Supply and erection of 26 mechanical pressure filters; (2) supply of automatic sequencing equipment for filter washing on eight existing batteries of mechanical pressure filters; (3) supply and erection of approximately 11 tons of filter support steelwork. Documents from Engineer, Fylde Water Board, Sefton Street, Blackpool. Tenders by September 11.

***Warwick.**—Laying of water mains at Lodge Wood estate for B.C. Deposit £2 2s. Tenders by Aug. 14.

Witney, Oxon.—Laying approximately 1,400 lin. yd. of 7in. diameter asbestos-cement pressure pipes at Upper Minster for R.D.C. Documents from the Engineer and Surveyor, 28 High Street, Witney. Tenders by Aug. 3.

HARBOURS, PIERS AND SEA DEFENCE WORKS

***Yarmouth, I. of W.**—Quay extension, contract 4 for Harbour Commissioners. Deposit £5 5s. Tenders by Aug. 31.

HEATING AND VENTILATING

Belfast.—Complete oil fired l.p.h.w. space heating installation, at proposed diagnostic centre and caretaker's residence at Greenwood House, Upper Newtownards Road, for City Council. Documents from the City Architect's Department, 40 Academy Street, Belfast, 1. Tenders by August 4.

Dagenham, Essex.—Supplying and installing an oil-fired low-pressure hot-water heating and hot and cold water service system at new transport workshop for B.C. Documents from the Borough Engineer and Surveyor, Civic Centre, Dagenham. Tenders by Aug. 9.

Dublin, Eire.—Mechanical services at the one storey fire station with drill tower and stores, etc., at Dolphin's Barn, for City Council. Documents from the offices of the Corporation of Dublin, 28/29 Castle Street. Deposit £6 6s. Plans seen at the office of the Dublin City Architect, 6 Mountjoy Square. Tenders by July 29.

Dundee.—Supply and installation of a fully automatic oil burner, oil tanks and pipework at Lawside annexe, Blackness Road, Dundee, for City Council. Documents from W. B. Taylor, consulting engineer, Central Baths, West Protection Wall, Dundee. Tenders by Aug. 11.

East Riding.—Installation of heating and hot and cold water services to the proposed new County Secondary School at Fulford, near York, for C.C. Documents from the County Architect, County Hall, Beverley. Tenders by August 3.

East Riding.—Installation of heating and hot and cold water services to the proposed infants' school at Cotttingham (Bacon Garth), for C.C. Applications to the County Architect, County Hall, Beverley. Tenders by August 10.

Farnworth, Lancs.—Alterations to the slipper baths and boilerhouse and ancillary works at the public baths, King Street, for B.C. Documents from the offices of the Borough Engineer and Surveyor, Town Hall, Farnworth. Tenders by August 14.

Haslemere, Surrey.—Following for U.D.C.: Supply of 32 Aidas lagged combination cylinders, type LCC, each capable of holding 20 gallons of hot water, complete with ball valves; supply of 32 3-kW Aidas Spirod immersion heaters, fitted with Aidas Aida-stat thermostat 20-amp rating 83in. long. Documents from the Housing Manager, Half Moon House, Haslemere. Tenders by Aug. 14.

Haslemere, Surrey.—Installation of hot water systems and fittings in 57 Council houses in Beacon Hill, Hindhead, for U.D.C. The work comprises the installation of hot water systems in 32 properties, wash-hand basins in 57 properties, and all necessary plumbing and wiring. Documents from the Housing Manager, Half Moon House, Haslemere. Tenders by Aug. 14.

Larne, Antrim.—Extension of l.p.h.w. heating, hot cold and drinking water service installation, Post Office Larne, for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast 1. Tenders by August 17.

Omagh, Tyrone.—L.P.H.W. heating, hot, cold and mains water, gas and petrol pump installations. R.U.C. County Headquarters, Mountjoy Road, Omagh, Co. Tyrone, for Ministry of Finance. Documents from Room 103, Law courts Building, Belfast 1. Tenders by Aug. 24.

Rochdale, Lancs.—Provision of a new boiler and alterations to existing heating installation at Oakenrod Primary School for B.C. Further particulars from Borough Surveyor, Town Hall, Rochdale. Tenders by July 31.

Swanage, Dorset.—Installation of a new central heating boiler at the Town Hall for U.D.C. Documents from P. S. Browne, engineer and surveyor, Town Hall, Swanage. Tenders by Aug. 8.

West Riding.—Renewal of central heating boiler at Morley Elmfield Secondary School

for C.C. Documents from the Divisional Architect, Bishopsgarth, Westfield Road, Wakefield. Tenders by Aug. 22.

HOUSING SCHEMES

Bathavon, Som.—Thirteen traditional type bungalows, together with warden's block, on the housing site at Wellow for R.D.C. Applications to Paul Kennell Pope, architect, 18 Brock Street, Bath, by July 29. Deposit £3 3s. (cheque).

Boldon, Dur.—Sixty-eight three bedroom type houses on the Mill Farm housing estate, Whitburn, for U.D.C. Documents from the office of J. T. Edmondson, surveyor, Council Offices, East Boldon. Deposit £5. Tenders by September 5.

Bournemouth, Hants.—Six blocks of flats at Moore Avenue for B.C. Documents from Borough Architect's Office (Room 106), Town Hall, Bournemouth. Deposit £2 2s. Tenders by Aug. 22.

Bury St. Edmunds, Suffolk.—Ten flats at Rosemary Road for B.C. Documents from the Borough Engineer and Surveyor, Borough Offices, Bury St. Edmunds. Deposit £2 2s. Tenders by Aug. 18.

Cemaes, Cards.—Two pairs of three-bedroom semi-detached houses on the Poppy Road frontage of the Maesydre housing site, St. Dogmaels, for R.D.C. Documents from Howard Williams and Partners, architects, Priory Street, Cardigan. Deposit £2 2s. Tenders by Aug. 14.

Chelmsford, Essex.—Meadgate scheme eight, for B.C. Deposit £2 2s. Tenders by August 28.

Chelmsford, Essex.—Following at Meadgate Avenue, Great Baddow, for B.C. Contract 2 and 3, 58 houses, 60 garages and 24 flats; contract 4, 27 houses, 34 garages and 24 flats. Documents from the Borough Engineer, Municipal Offices, Coval Lane, Chelmsford. Deposit £2 2s. each contract. Cheques payable to Chelmsford Corporation. Tenders by August 14.

Colwyn Bay, Denbighs.—Fourteen bungalows and a block of four flats at Tan-y-Lan Road, Old Colwyn, for B.C. Documents from the Borough Engineer, Whalley Range, Lansdowne Road, Colwyn Bay. Tenders by Aug. 4.

Congleton, Ches.—Ten bungalows on the Buglawton estate, for B.C. Documents from the Borough Engineer, Market Place, Congleton. Deposit £2. Tenders by July 29.

Crawley, Sussex.—Three hundred and seven dwellings, including three-storey houses, each with a lock-up garage, on stage I of Furnace Green neighbourhood of the New Town for Development Corporation. It is anticipated that the value of the works will be in the neighbourhood of £800,000. Applications to the Chief Architect, Broadfield, Crawley, Sussex, by July 31.

Cumbernauld, Dunbartons.—Carbrain three and four housing development, for Development Corporation, Apply by August 11.

East Retford, Notts.—Three pairs of semi-detached dwellings at Moorgate, including paths, drainage, etc., but excluding roadworks and sewers for B.C. Applications to the Town Clerk, Municipal Offices, East Retford, by Aug. 4. Deposit £2 2s. (cheques payable to the Corporation).

Fulwood, Lancs.—Aged persons' dwellings on land off Sharoe Green Lane South for U.D.C., consisting of 22 bungalows, two two-storey blocks of eight flats each, and one community centre with two flats over. Documents from Harry Walters, architect, 18 Guildhall Street, Preston. Deposit £2 2s., cheque payable to Council. Tenders by Aug. 14.

Hampshire.—Police house with attached garage at Church Road Hayling Island, for Police Authority. Applications to the County Architect, The Castle, Winchester by July 31. Deposit £1 1s., cheque payable to the Treasurer of the Police Fund.

Hemsworth, Yorks.—Erection and completion of one bedroom type bungalows in each of the following, for R.D.C.: Ackworth—6; Brierley—12; Havercroft—6; Great Houghton—6. Documents from the office of the Engineer and Surveyor to the Council, Brierley Hall, Brierley, near Barnsley. Deposit £4 4s. Tenders by August 9.

Holyhead, Anglesey.—Old people's bungalows at Baptist Street for U.D.C. Apply by July 28. Deposit £2 2s. Tenders by Aug. 31.

Iford, Essex.—Conversion of 59 Eastwood Road into four flats and one maisonette for B.C. Documents from the Borough Engineer, Town Hall, Iford, upon written application. Deposit £2 2s. Tenders by Aug. 22.

Liverpool.—Construction of 176 flats in 22-storey block Harding Street, for City Council. Documents from City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool 2. Deposit £2 2s., payable to City Treasurer. Tenders by September 6.

Northampton.—Fifteen bungalows, Whiston Road, for B.C. Applications to the Borough Architect, Guildhall, Northampton, before

Aug. 7. Deposit £2 2s. (cheques payable to Corporation). Tenders by Sept. 11.

Nuneaton, War.—Two blocks of three-storey flats, one block of six flats, with eight garages, at Freer Street, Atleborough, and one block of six flats at Midland Road, to form one contract for B.C. Applications to the Borough Surveyor, Council House, Nuneaton. Deposit £2 2s. Tenders by Aug. 28.

Peterborough.—Eleven blocks of four one-bedroom flats and 23 garages on three sites in the City for City Council. Documents from Town Clerk, Town Hall, Peterborough. Deposit £2. Tenders by Aug. 14.

Petersfield, Hants.—Erection of eight four b.r. houses, four three b.r. houses, and eight two b.r. flats at Tower Road estate, Liphook, for R.D.C. Documents from Engineer and Surveyor, The Old College, Petersfield. Deposit £2 2s. Tenders by Aug. 18.

Pewsey, Wilts.—Town housing site, Haines Terrace (contract 2), for R.D.C.: Construction of roads and sewers and three pairs of two-bedroom bungalows, a terrace of four and a pair of three-bedroom houses as one contract. Documents from Sutton, Griffin and Sweetnam, architects, 87 Northbrook Street, Newbury. Deposit £2 2s. Tenders by Aug. 23.

Reigate, Surrey.—Eighteen dwellings at Woodhatch Farm estates for B.C. Deposit £2 2s. Tenders by Aug. 10.

Salisbury and Wilton, Wilts.—Ten old people's bungalows including curtilage site works at Fovant, for R.D.C. Documents from C. S. Brown, clerk of the Council, Council Offices, 26 Endless Street, Salisbury. Deposit £2 2s. Plans seen at the offices of Bothams and Brown, council's architects, 32 Chipper Lane, Salisbury. Tenders by Sept. 15.

Southport, Lancs.—Exterior painting of 71 dwellings in Drewitt Crescent, for B.C. Documents from the Borough Architect and Town Planning Officer's Department, 99-105 Lord Street, Southport. Deposit £1 1s. Tenders by August 11.

Southport, Lancs.—Fifty-six houses, for B.C. Deposit £2 2s. Tenders by August 28.

Stafford.—Eleven aged persons' bungalows and incidental works at Colwich (seven miles from Stafford) for R.D.C. Documents from Watkin, Willis and Cooper, architects, N.P. Bank Chambers, Burslem, Stoke-on-Trent. Deposit £3 3s. (cheques payable to Council).

Staffordshire.—Two pairs of police houses with garages at Millfields housing estate, Wednesbury, for C.C. Applications to T. H. Evans, clerk of the County Council, County Buildings, Stafford, by August 4. Deposit £2 2s. Tenders by September 8.

Swaffham, Norfolk.—Conversion of an existing stable block at Weeting into five self-contained dwellings, for R.D.C. Documents from J. S. Burton, clerk of the council, Rural Council Offices, Market Place, Swaffham. Deposit £1 1s. Tenders by August 21.

Torquay, Devon.—Three blocks, each containing eight flatlets, at Mincet Hill, Watcombe, for B.C. The work is scheduled to commence after Oct. 1, 1961. Written applications should be made by Friday, Aug. 4, to the Borough Surveyor, Town Hall, Torquay. Deposit £2 2s., cheque payable to Corporation.

Watford, Herts.—One block of six aged persons' flats in traditional construction at Breakspear Road, Abbots Langley, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, 99 Langley Road, Watford. Deposit £2 2s. Tenders by August 15.

Wortley, Yorks.—Two blocks of two three-bedroom houses, four blocks of two two-bedroom houses, and three blocks of two two-bedroom bungalows in traditional construction, at Grenoside near Sheffield, for R.D.C. Documents from A. Wikeley, engineer and surveyor, Council Offices, Grenoside, Sheffield. Deposit £5. Tenders by Aug. 10.

Wrexham, Denbighs.—Sixty-six dwellings and 42 garages, Montgomery Road, for B.C. Documents from the Borough Surveyor, Guildhall, Wrexham. Deposit £2 2s. Tenders by Aug. 8.

MATERIALS AND SUPPLIES

Armagh.—Supply of school furniture including tubular stacking desks and chairs, chalk-boards, wooden tables and wood or steel stools, for C.C. Full particulars from The Principal, Technical School, Armagh. Tenders by July 31.

Dundee, Angus.—Supply of whin or granite kerb stones, for City Council. Details from the City Engineer, 21 City Square, Dundee. Tenders by August 14.

Durham.—Supply of the following, for C.C.: Building bricks; hedging plants and grass seeds; plastic white lime material; salt for snow melting; steel wire fabric for reinforcement; tools and stores; bolts and nuts; wood screws, and automobile lamp bulbs. Further particulars from the County Engineer and Surveyor, Aykley Heads, Durham. Tenders by August 14.

Durham.—Supply of bedding and linen for C.C. Tenders by Aug. 18.

East Riding.—Supply of: (a) Roadstone and chippings; (b) gravel and sand during the year ending Sept. 30, 1962, for C.C. Documents from the County Surveyor, County Hall, Beverley. Tenders by Aug. 14.

Leyland, Lancs.—Contract 33-48 flats, Lower House estate, Leyland, following prime cost items, for U.D.C.: Facing bricks—supply only; precast concrete—supply only; wood windows—supply only; electrical installation—supply and fix; doors—supply only; ironmongery—supply only; sanitary fittings—supply only; fireplaces—supply only; thermoplastic floor tiles—supply and fix; kitchen fittings—supply only. Applications to W. C. F. Godsell, clerk of the Council, Council Offices, Leyland by August 4.

Manchester, Lancs.—Supply of approximately 20,000 gallons of paint to various hospital management committees in the Manchester region for a period of 12 months from October 1, 1961, for Blackburn and District Hospital Management Committee. Documents from the Group Supplies Officer, Supplies Department, Queen's Park Hospital, Blackburn. Tenders by August 14.

Manchester.—Following for City Council: (a) Forks, shovels and spades, and (b) a black fluid disinfectant (B.S.S. 2462: 1954—group BA), required by the various departments during the 12 months ending Sept. 30, 1962. Documents from the Director of Public Cleansing, Town Hall, Manchester, 2. Tenders by Aug. 8.

Middlesex.—Supply of lubricating oil for use in the diesel power plant at Mogden Works, Isleworth, during period April 1, 1961, to March 31, 1965, for C.C. Approximate quantity required 12,000 gallons per annum delivered in bulk. Documents from the Chief Engineer, Middlesex County Main Drainage Department, P.O. Box 7, Isleworth. Tenders by Sept. 11.

Northwich, Ches.—Supply of plumbing goods for U.D.C. Tenders by Aug. 12.

Plymouth.—Following for period commencing October 9, 1961, for City Council: Contract 13 cement; 20 maintenance of weighbridges, beams and scales; 23 petrol, derv, kerosene, fuel oil, etc.; 27 milk; 51 tools; 52 plumbers' materials; 53 castings and founders and smiths' materials; 54 electric lamps; 55 general ironmongery; 56 india rubber goods; 57 rope, canvas, tarpaulins, etc.; 58 blinds and blind fittings; 59 crockery and glassware; 61 brushes, brooms and mats; 62 builders' materials. Documents from the Stores Officer, Municipal Offices, Athenaeum Place, Lockyer Street, Plymouth. Tenders by August 10.

Staffordshire.—Supply of workshop machinery, for C.C. Documents from the Director of Education (Supplies), County Education Offices, Earl Street, Stafford. Tenders by July 29.

Staffordshire.—Supply of following for new College of Technology, Stafford, for C.C.: (a) Metallurgy laboratory equipment (Q1); (b) metallurgy and plastics laboratory equipment (R.2); (c) plastics laboratory equipment (Y.1). Documents from the Director of Education (Supplies), County Education Offices, Earl Street, Stafford. Tenders by Aug. 12.

Tottenham, Middx.—Supply of seat seats, for B.C. Documents from the Parks Superintendent, Parks Department, The Lido, Lordship Lane, N.17. Tenders by noon, August 14.

West Ham, Essex.—Supply of electric lamps for a period of 12 months from Nov. 1, 1961, for B.C. Documents from Borough Engineer, West Ham Town Hall, Stratford, E.15. Tenders by Aug. 11.

West Riding.—Supply of dry aggregate and sand for concrete, crushed sandstone, ready mixed concrete, chippings for the surface dressing of roads. All required in connection with the maintenance of highways, for C.C. Documents from the County Engineer and Surveyor, County Hall, Wakefield. Tenders by August 4.

Wirral, Ches.—Supply of fuel oil for U.D.C.

PLANT AND MECHANICAL TRANSPORT

Antrim.—Supply and delivery of a fore-and-aft tipping refuse collection vehicle with a body capacity of 16/18 cu. yd. for R.D.C. The vehicle to be supplied with all tools and equipment as per manufacturer's specification. The tender price should include for the appropriate lettering and finish, painting of the cab in prussian blue, body in grey, and wheels and mudwings in black. Tenders, accompanied by all relevant details, to Clerk of the Council, Council Offices, The Steeple, Antrim, by 5 p.m., Aug. 4.

Barking, Essex.—Supply and delivery of the following vehicles for B.C.: Two 3-ton Ford Thames Trader low-loading chassis (diesel), fitted with 14 cu. yd. Derby-type refuse tipping bodies; one 1½-ton Austin van (large capacity body), forward control and diesel engine; two Ford 3-tonners and one 1-ton Austin van are being offered in part exchange. In addition, offers are

invited for the disposal of a BTD6 tractor and a Commer van. Documents from the Borough Engineer and Surveyor, Town Hall, Barking. Tenders by Aug. 4.

Belfast.—Supply of two independent power operated self-feeding gritter bodies (form 1164), for City Council. Documents from the Transport Department, Sandy Row Depot, Belfast, 12. Tenders by August 1.

***Bournemouth, Hants.**—Supply of vans and refuse vehicles for B.C. Tenders by Sept. 7.

Cork, Eire.—Supply and delivery to the respective machinery yards of the following plant for C.C.: Three 8 cu. yd. diesel tipper lorries, allowance to be given for three Ford tipper lorries; one 7cwt. Ford van, complete, allowance to be given for one 10cwt. Ford van; one 30cwt. diesel van, complete, allowance to be given for 25cwt. Commer van. Mallow—one 8 cu. yd. diesel tipper lorry, allowance to be given for one Bedford tipper lorry; one 14/10 non-tilt concrete mixer, with batch weigher, complete; two chain saws, engine-driven, complete, suitable for felling and cutting up of medium to large trees, quote for 24in. to 50in. Victoria Cross Yard, Cork—two 15cwt. pick-up trucks, allowance to be given for one Austin pick-up truck; one 14/16-ton diesel roller, complete with scarifiers. The type of lorry to be supplied is 138in. W.B. Trader 70 (six-cylinder diesel), end tipper and drop sides, 8 cu. yd. steel body, V4 hoist, heavy-duty, two-speed axle and 14-ply tyres, the bodies to have 10 gauge steel floor and 12-gauge steel sides, front and rear. All vehicles supplied are to be painted green, with doors to be lettered as directed, and must be complete with number plates and tax disc holders. A detailed specification for each item tendered for should accompany the tender, and the credit allowance on trade-in vehicles indicated. The vehicles being traded in may be inspected at the respective machinery yards during normal working hours by appointment with the Chief Assistant County Engineers in the areas. Sealed tenders, marked "Tenders for new plant," to the Secretary, Cork County Council, Courthouse, Cork, by 5 p.m., Aug. 16.

Down.—Supply and delivery to Banbridge of two 8 cu. ft. (or equivalent) excavators, painted and lettered to requirements for Portadown and Banbridge Regional Waterworks Joint Board. The excavators to be powered by diesel engines and each excavator to be equipped with not less than 16in. wide tracks, standard trenching equipment, having 12in. and 15in. trencher buckets, complete with front teeth and side cutters, two spare sets of wire ropes, two spare sets of front teeth and side cutters for trencher buckets and one spare trencher arm. Documents from the Works Superintendent, Downshire Road, Banbridge. Tenders by Aug. 8.

Dundee, Angus.—Supply of a two-tool, high speed, trailer mounted, diesel engined, air cooled compressor with a free air delivery of approximately 140 cu. ft. per minute, for City Council. Tenders, endorsed "Water Department—Air Compressor," to Town Clerk, City Chambers, Dundee, by August 5.

Hemel Hempstead.—Supply of long wheel-base utility truck for B.C. Documents from Borough Engineer, High Street, Hemel Hempstead. Tenders by Aug. 21.

Kerry, Eire.—Supply of one road line marking machine with automatic interrupter gear and bead dispenser, to the Machinery Yard, Tralee, for C.C. Lowest or any tender will not necessarily be accepted. Tenders in sealed envelopes, marked "Tenders for Road Line Marking Machine" to Secretary, Kerry County Council, Ashe Memorial Hall, Tralee, by noon, Aug. 5.

Londonderry.—Supply to the city abattoir, of one trailer, 200 gallons capacity, for the transporting of liquids and semi-liquids, for City Council. Documents from the Abattoir Superintendent, Guildhall, Londonderry. Tenders by July 31.

Norfolk.—Supplying two Bedford/Lacre S.A. road sweeper collectors, for C.C. Applications to the County Surveyor, County Offices, Thorpe Road, Norwich, Norfolk. NOR 4TA. Tenders by August 4.

Thedwastre, Suffolk.—Supply of one Yorkshire Karrier 5-ton cesspool emptier (capacity 1,000 gallons) with petrol engine, and painted and lettered to the Council's requirements, for R.D.C. The vehicle is to be supplied with all purpose tyres and the successful tenderer will be required to take in part exchange a 1952 Karrier cesspool emptying vehicle. Further particulars from the Surveyor and Public Health Inspector, Council Offices, Elmwell. Tenders by Aug. 8.

Torquay, Devon.—Supply and delivery of two 30cwt. Ford Thames vehicles for B.C. In each case old vehicles are to be taken in part exchange, and firms tendering must make allowances for these. Documents from the Borough Engineer, Town Hall, Torquay. Tenders by Aug. 4.

PLAYING FIELDS, PARKS, ETC.

Brighton, Sussex.—Construction of playground at Lower Bevendean Primary School, for B.C. Documents from the Borough Surveyor, Engineer and Planning Officer, 26-30, King's Road, Brighton. Deposit £1 1s. Tenders by August 5.

Bristol.—Stockwood first section, West Town Lane and Hazelbury Road housing sites, preparation of grass areas, for City Council. The work includes approximately 15,200 sq. yd. at Stockwood, 420 sq. yd. at West Town Lane, and 500 sq. yd. at Hazelbury Road. Documents from the offices of the City Engineer and Planning Officer, Cabot House, Deanery Road, Bristol, 1. Tenders by Aug. 14.

Chadderton, Lancs.—Construction of playing fields, Higher House Close, for U.D.C., involving site excavation and filling, levelling, cultivating and seeding of approximately 3,775 sq. yd. of playing fields and the construction of approximately 1,307 sq. yd. of hard area for garage site, access road, and other ancillary works. Documents from the Engineer and Surveyor, Town Hall, Chadderton. Deposit £2 2s. Tenders by Aug. 11.

East Riding.—Supply and delivery to establishments in the East Riding of Yorkshire of the following for C.C.: (a) Playing fields equipment; (b) seeds, fertilisers, weedkillers, etc. Documents from the Chief Education Officer, County Hall, Beverley. Tenders by Aug. 18.

Westhoughton, Lancs.—Re-forming of the football playing area at the Chequerboard recreation ground, for U.D.C. Documents from the Surveyor, Town Hall, Westhoughton. Tenders by August 14.

RIVER AND FLOOD PREVENTION WORKS

Essex.—Chelmsford flood relief scheme, for the Essex River Board. The works, which will take about three years to complete, will comprise: (a) Construction of control sluice, 500 sq. ft. gate opening, including two radial gates and one tilting gate; (b) earth channel improvement to 3,000 yd. of the rivers Can and Shelmere, within the Borough of Chelmsford; (c) construction of 170yd. of reinforced concrete open channel 30ft. wide by 13ft. deep, on River Chelmer; (d) construction of 375yd. of reinforced concrete open channel 40ft. wide by 13ft. deep, on restricted section of River Can; (e) ancillary works, including alterations to bridges and sewers. Submit names to the Engineer to the Board, Rivers House, New Writhle Street, Chelmsford, by July 31. Approved applicants will be provided with drawings, specification and bills of quantities, which will be ready by about the August 7. Contractors will be given approximately six weeks in which to submit a tender, and the successful contractor will be required to commence work during October.

Smethwick, Staffs.—Flood prevention scheme for B.C., including the construction of culvert from Watery Lane to main outfall: 400yd. of 12ft. 6in. by 6ft. 6in. box culvert in heading and open cut; 300yd. of 9ft. 6in. by 6ft. 6in. box culvert in open cut, including canal crossing; 1,100yd. of 7ft. 6in. and 6ft. 6in. diameter concrete segmented culvert in tunnel; 160yd. of 6ft. 6in. diameter culvert in open cut; two reinforced concrete bridges of 15ft. and 12ft. span. Applications to the Borough Engineer and Surveyor, Council House, Smethwick, by Aug. 21, giving details of work of a similar nature, particularly of tunnel work of 6ft. or more diameter carried out recently.

***Viewsley, Middx.**—River Pinn improvement scheme for Thames Conservancy.

ROADS, BRIDGES AND SITE WORKS

Barrowford, Lancs.—Making up of Camden Street and part of Wilton Street, for U.D.C. The work comprises of excavation, drainage and the construction of carriageways and footways. Documents from the Surveyor, Council Offices, Halstead Lane, Barrowford. Deposit £2 2s. Tenders by August 4.

Bedfordshire.—Repairs to the stonework of Bromham Bridge, on the Ipswich-Weedon trunk road, A.428 and the filling-in of a scour hole in the river bed downstream of the bridge, for C.C. Documents from the County Surveyor, Dents Road, Bedford. Deposit £2. Tenders by August 4.

Berkshire.—London-Edinburgh-Thurso trunk road A.1. Reconstruction of road in the vicinity of the Mans Bends, Burnmouth, extending to a length of 1,100 lin. yd. for C.C. Works include excavation, drainage, retaining walls, fencing, carriageway, etc., etc., to provide a 24ft. carriageway and 12ft. margins. Documents from J. B. Smith, county clerk, County Buildings, Duns. Deposit £5 5s. Plans seen at the County Road Surveyor's Office, Southfield, Duns, and an engineer will meet

contractors on August 8, at 2.15 p.m. at Flemington Inn, Burnmouth. Tenders by August 18.

Birkenhead, Ches.—Prenton Hall Road extension (section 2), for B.C. (a) 280 lin. yd. approximately 30ft. wide 8in. thick doubly reinforced concrete carriageway, including kerbs. (b) 295 lin. yd. approximately of 9 1/2/15in. diameter foul water sewer, including manholes and gullies. Documents from the Borough Engineer and Surveyor's Office, Municipal Buildings, 3 Conway Street, Birkenhead. Deposit £5. Tenders by August 8.

***Birmingham.**—Construction of footpaths for City Council. Deposit £2 2s. each. Tenders by Aug. 9.

***Birmingham.**—Construction of roads and sewers at Fox Hollies Hall estate for City Council. Deposit £2 2s. Tenders by Aug. 9.

Bishop's Stortford, Herts.—Construction of a new footpath and widening of the carriageway, together with certain accommodation works, on about 180 lin. yd. of Southmill Road for U.D.C. Documents from the Engineer and Surveyor, The Council House, Causeway, Bishop's Stortford. Deposit £2 2s. Tenders by Aug. 23.

Blisfield and Flegg, Norfolk.—Making-up and asphalt surfacing of Acle Council office forecourt for R.D.C., comprising approximately 1,450 sq. yd. Documents from the department of the Engineer and Surveyor, Council Offices, Acle, Norwich, Nor. 612. Deposit £2 2s. (cheques payable to R.D.C.). Tenders by Aug. 8.

Bromley, Kent.—Construction of two bus bays on Bromley Common, near the junction of Crown Lane, for B.C. The work consists of removing existing kerbing and paving, laying approximately 290 sq. yd. of 9in. double reinforced concrete, and re-laying paving, kerb, and other ancillary work. Documents from the Borough Engineer, Municipal Buildings, Bromley. Tenders by August 9.

Bucklow, Ches.—Partington Community Centre, stage II, construction of roads and sewers for R.D.C., including the construction of approximately 1,250 sq. yd. of bituminous macadam carriageway, 3,000 sq. yd. tarmacadam footways; 140 lin. yd. 6in. and 140 lin. yd. 9in. diameter sewer and ancillary work. Applications to the Engineer and Surveyor, Dunham Mount, Dunham Road, Altringham. Deposit £2 2s. Tenders by Aug. 8.

Bury St. Edmunds, Suffolk.—Making-up of Cornfield Road (part of), contract 1, and making-up of Cornfield Road (part of), contract 2, for B.C.: (Contract 1) Laying of 1,200 sq. yd. of hot rolled asphalt, 400 lin. yd. of concrete kerbing, 600 sq. yd. of cold asphalt surfaced footpath, and surface water drainage works; (2) laying of 160 sq. yd. of hot rolled asphalt, 70 lin. yd. of concrete kerbing, 90 sq. yd. of cold asphalt surfaced footpath, and surface water drainage works. Documents from the office of the Borough Engineer and Surveyor, Borough Offices, Bury St. Edmunds. Deposit £2 2s. each. Tenders by Aug. 15.

***Canterbury, Kent.**—Construction of roadworks and foul sewer for City Council. Tenders by Aug. 21.

***Cheltenham, Glos.**—Construction of access road, foul and surface water sewers, for B.C. Deposit £2 2s. Tenders by August 21.

***Chesterfield, Derby.**—Construction of streets and sewers for B.C. Deposit £2 2s. Tenders by Aug. 14.

***Chichester, Sussex.**—Making-up estate roads for R.D.C. Applications by Aug. 19.

***Chislehurst and Sidcup, Kent.**—Car park for U.D.C. Deposit £2 2s. Tenders by Aug. 11.

***Connah's Quay, Flint.**—Roadworks and sewerage for U.D.C. Deposit £5 5s. Tenders by Aug. 26.

Droylsden, Lancs.—Footpath reconstruction works and removal of soil embankment, Greenside Lane, for U.D.C. Documents from H. H. Emery, engineer and surveyor, Council Offices, Droylsden. Tenders by Aug. 5.

Dunbartonshire.—Gretna-Stranraer-Glasgow-Stirling trunk road—route A.80. soils investigation for the proposed diversion from west of Cumbernauld to Castlecary, for C.C. The investigation includes boring, excavating trial pits, soil sampling and testing. A comprehensive report interpreting the findings of road survey and the results of the soil tests is to be submitted. Applications to the County Surveyor, 88 College Street, Dunbarton, by August 1, and be accompanied by a bank deposit receipt in favour of the County Council for the sum of £20, returnable on the receipt of a bona-fide tender.

East Grinstead, Sussex.—Road and drainage works for U.D.C., including 106 lin. yd. of kerbed hardcore foundation and tarmacadam carriageway and footway, together with 65 lin. yd. of 24in. diameter surface water drain, and ancillary works, at Orchard Way (Dallaway Gardens extension). Documents from B. J. Cornelius, surveyor, East Court, East Grinstead. Deposit £2 2s. Tenders by Aug. 18.

July 27 1961

Evesham, Worcs.—Advance preparation of industrial estate, Worcester Road, for B.C., including the construction of approximately 1,000 sq. yd. of carriageway, 600 lin. yd. of surface water sewer, 580 lin. yd. foul sewer, sewage pumping chamber, 650 lin. yd. asbestos rising main, and incidental works. Documents from the Borough Surveyor, 106 High Street, Evesham. Deposit £2 2s. Tenders by Aug. 10.

Gloucester.—Construction of roads and sewers at Cole Avenue industrial site, comprising approximately 350 lin. yd. of 9in. sewers and 3,400 sq. yd. of hoggin-based carriageway, together with all ancillary works, for City Council. Documents from the City Engineer and Surveyor, 21 Eastgate Street, Gloucester. Deposit £2 2s. Tenders by Aug. 14.

Gosport, Hants.—Private street works, contract 3, for B.C. Deposit £2 2s. Tenders by September 5.

Haslingden, Lancs.—Flagging of footpaths, 1961-62 programme, for B.C., including flagging and ancillary works of approximately 1,550 sq. yd. of footpath on various estates. Documents from the Offices of the Borough Surveyor, Municipal Offices, Bury Road, Haslingden. Tenders by August 18.

Herne Bay, Kent.—Widening, super-elevating and resurfacing of 625ft. of Canterbury Road, A.291, at Strode Park, for U.D.C. Documents from W. W. Smith, engineer and surveyor, Council Offices, Herne Bay. Deposit £2 2s. Tenders by August 7.

Huddersfield, Yorks.—Reconstruction of parts of New North Road and Edgerton-Halifax road for B.C. Deposit £2 2s. Tenders by Aug. 17.

Huddersfield, Yorks.—Proposed new Civic Centre, phases I and II, demolition work and site excavation for B.C. Documents from the Borough Architect's Office, High Street Buildings, Huddersfield. Deposit £2 2s. Tenders by Aug. 1.

Ince-in-Makerfield, Lancs.—Superelevation of Warrington Road, at junction with Taylors Lane, for U.D.C., including approximately 420 lin. yd. of kerbs and channels, 850 sq. yd. of flagging, 1,550 sq. yd. of tarmacadam base course and cold asphalt wearing course, and other appurtenant work. Documents from the Surveyor, Town Hall, Ince, near Wigan. Tenders by Aug. 1.

Kilkeel, Down.—Surface tarring approximately 6,600 super. yd. of carriageways and other ancillary works in the district, for U.D.C. Documents from W. H. Cousins, town clerk, Council Offices, Greencastle Street, Kilkeel. Tenders by Aug. 1.

Lancashire.—Construction of roadworks in Archer Street, Mary Street and Stainton Street, Millhead, in the Rural District of Lancaster, for C.C. Documents obtainable from County Surveyor and Bridgemaster, P.O. Box 9, Preston. Deposit £2, cheques payable to Council. Plans seen at 9 Fishergate Hill, Preston. Tenders by August 4.

Lancashire.—Construction of roadworks in the following private streets in the Rural District of Whiston, for C.C.: 1, Stuart Road, Sackville Road (part of), Lawrence Road (part of), and Woodford Road (part of), Windle; 2, Acacia Grove, Eccleston; 3, Kilne Close, Eccleston; 4, Lester Drive (part of), Eccleston. Plans seen at 9 Fishergate Hill, Preston. Documents from County Surveyor and Bridgemaster, P.O. Box 9, Preston. Deposit £2 for item, cheques payable to Council. Tenders by August 4.

Lancashire.—Construction and completion of roadworks in the following streets in the rural district of Whiston for C.C.: (1) Stuart Road, Sackville Road (part of), Lawrence Road (part of), and Woodford Road (part of), Windle; (2) Acacia Grove, Eccleston; (3) Kilne Close, Eccleston; and (4) Lester Drive (part of) Eccleston. Plans seen at 9 Fishergate Hill, Preston. Documents from County Surveyor and Bridgemaster, P.O. Box 9, Preston. Deposit £2 each. Tenders by Aug. 4.

Leeds.—Soil survey for City Council. Deposit £2 2s. Tenders by Aug. 18.

Leicestershire.—Reconstruction of Finchley Bridge and carriage realignment on the Leicester to Uppingham Road, A.47, at the County Boundary, for C.C. Documents from the County Engineer and Surveyor, County Offices, Grey Friars, Leicester. Deposit £5. Tenders by August 17.

Llanfyllin, Monts.—Works of repair and improvement to housing estate roads at Llanerfyl, Dolanog, Llangadfan and Meifod, for R.D.C. Documents from the Surveyor, Council Offices, Llanfyllin. Deposit £1 1s. Tenders by August 5.

London.—Holborn-Kingsway intersection improvement, stage 1, for C.C. Deposit £10. Tenders by Aug. 28.

Lutterworth, Leics.—Construction of roads and sewers on a small housing site at North Kilworth, for R.D.C. Documents from A. F. Ashton, clerk of the Council, Council Offices, Lutterworth. Tenders by August 14.

Maidenhead, Berks.—Road and footway works, Cox Green estate, for B.C. Deposit £2. Tenders by Aug. 21.

Manchester.—Private street works (1) and (2) for, City Council. Tenders by August 28.

Middleton, Lancs.—Asphalt surfacing for B.C. Deposit £2 2s. Tenders by Aug. 9.

Midhurst, Sussex.—Site works at Sandrock housing site for R.D.C. Deposit £2 2s. Tenders by Sept. 1.

Newcastle-under-Lyme, Staffs.—New Street, Wostanton: Redevelopment area. Completion work for B.C., including the following approx. quantities of road works—1,800 lin. yd. kerbing and channelling; 6,500 sq. yd. carriageway surfacing; 4,500 sq. yd. footway surfacing; and 2,800 lin. yd. concrete edging. Documents from the office of the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle, Staffs. Tenders by Aug. 14.

Paignton, Devon.—Making-up of Sandringham Drive, Merryland Gardens, and Stella Road, for U.D.C. Documents from the Engineer and Surveyor, Municipal Offices, Oldway, Paignton. Tenders by August 14.

Peterborough.—Church Street, Werrington, improvement for City Council, including approximately 6,500 sq. yd. of roadway, surface water sewers and water mains. Documents from City Engineer, Town Hall, Peterborough. Deposit £2. Tenders by Aug. 21.

Ramsey, Hunts.—Station Road housing site, for U.D.C. Deposit £3 3s. Tenders by August 12.

Rutland.—Improvement, south of Gunthorpe, for C.C., which is located approximately two miles south of Oakham, on the Oakham-Uppingham Road, A.6003. The scheme requires the reconstruction of 325 lin. yd. of carriageway, 24ft. wide, provision of approximately 6,250 tons of filling, 650 lin. yd. concrete kerbing, drainage and ancillary works. Documents from the office of the County Surveyor, County Offices, Oakham, Rutland. Plans seen by appointment. Deposit £2 2s. Tenders by Aug. 14.

St. Albans, Herts.—Both or either of the following works, for City Council: (i) Private street works, Hawfield Gardens, 1,300 cu. yd. of excavation, 1,400 sq. yd. of surfacing, 500 lin. yd. of 9in. diameter stoneware pipes, and ancillary works; (ii) private street works, Watling View, 1,000 sq. yd. of surfacing, 500 sq. yd. of paving, 250 lin. yd. of kerbing, and ancillary works. Documents from the City Engineer, 16 St. Peter's Street, St. Albans. Tenders by Aug. 3.

St. Albans, Herts.—Reconstruction of Folly Lane (part), comprising approximately 2,300 sq. yd. of carriageway works (10in. lean-mix base and 4in. asphalt surfacing), together with ancillary works for City Council. Documents from the City Engineer, 16 St. Peter's Street, St. Albans. Tenders by Aug. 3.

Southport, Lancs.—Supply, delivery, and laying of approximately 23,500 super. yd. of hot rolled asphalt and precoated granite chippings on Preston New Road, for B.C. Documents from the Borough Engineer, Town Hall, Southport. Deposit £2 2s. cheques payable to Corporation. Tenders by August 4.

Stafford.—South Walls widening, for B.C. Tenders by August 25.

Staffordshire.—Construction of approximately 900yd. of 33ft. carriageway, together with footpaths, and ancillary works, on the Worcester-Wolverhampton-South of Stafford trunk road, A.449 between St. Michael's Road, Penkridge, and Littleton Colliery Bridge, for C.C. The works comprise fencing, earthmoving, Drainage, kerbing, footpaths and carriageway construction, consisting of cement bound granular base, with hot rolled asphalt base course. Documents from T. H. Evans, clerk of the County Council, County Buildings, Stafford. Deposit £5. Tenders by Aug. 15.

Sunbury-on-Thames, Middx.—Making up of Gaston Way (part) with hot rolled gravel asphalt carriageway, A.S.P. footways, concrete kerbing and channelling, cast-iron foul sewer, concrete surface water drainage, and ancillary works, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Sunbury-on-Thames. Tenders by September 4.

Surry.—Reconstruction and reshaping carriageway in hot rolled gravel asphalt and supplying and laying approximately 960 tons 4in. granite hot rolled asphalt at London Road (A.30), Camberley (approximately 1,080 lin. yd.), for C.C. Documents from the County Engineer, County Hall, Kingston-upon-Thames. Tenders by July 31.

Thedwastre, Suffolk.—Construction of roads and footpaths and surface water drainage at School Road Housing Estate, Elmswell, for R.D.C. Documents from the offices of P. and L. Barefoot, chartered architects, 22 Thoroughfare, Ipswich. Tenders by Aug. 4.

Thurrock, Essex.—Highway improvement work, for U.D.C. Deposit £5 5s. Tenders by September 1.

Tring, Herts.—Construction of roads and sewers on housing site 14 at the rear of

Meadow Close, for U.D.C. The site contains approximately 400yd. of concrete carriageways, 20ft. wide, and approximately 200yd. of 24ft. wide standings for garages serving a proposed site of 103 housing units. Apply to Woodroffe Buchanan and Coulter, Council's architects, 41 High Street, Tring. Tenders by July 31.

Truro, Corn.—Reconstruction of approximately 1,950 sq. yd. of Newham Road, together with tarmacadam surfacing and ancillary works, for City Council. Documents from the City Engineer and Surveyor, Municipal Offices, Truro. Deposit £3 3s. Tenders by Aug. 17.

Warwick.—Heathcote Road reconstruction, for B.C. Deposit £2 2s. Tenders by August 14.

Weston-super-Mare, Som.—Private street works for B.C. Deposit £2. Tenders by Aug. 4.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Abertillery, Mon.—Trunk sewer diversion—Carlyle Street, for the Western Valleys (Mon.) Sewerage Board, comprising the laying in the highway of approximately 500yd. of 21in. diameter concrete lined cast-iron pipes with reinforced and precast concrete manholes. Documents from C. H. Dobbie and Partners, the board's consulting engineers, 12 Cathedral Road, Cardiff. Deposit £5 5s. Tenders by August 14.

Aarklow, Wicklow.—Following works for U.D.C.: (1) Laying 464 lin. yd. 24in. diameter stormwater sewer; (2) laying 1,955 lin. yd. 8in. water main, 1,455 lin. yd. 4in. water main, 92 lin. yd. 3in. water main and all works incidental thereto. Documents from John J. Hurley, acting town clerk, Urban District Offices, Courthouse, Aarklow. Deposit £10. Tenders by Sept. 1.

Banbury, Oxon.—Adderbury sewerage scheme for R.D.C. Deposit £5 5s. Tenders by Sept. 6.

Basingstoke, Hants.—Sewage disposal works, contracts 2 and 3, for R.D.C. Deposit £5 5s. Tenders by Aug. 21.

Birmingham.—Calthorpe Park redevelopment area for City Council. Deposit £2 2s. Tenders by Aug. 16.

Brigg, Lincs.—Supplying and laying approximately 630 lin. yd. of 24in. diameter concrete pipes, together with incidental works, between Wrawby Road and Grammar School Road, for U.D.C. Written applications to G. F. Hawkins, surveyor, Council Offices, Town Hall, Brigg. Deposit £1 ls. cheque. Tenders by Aug. 19.

Burton-upon-Trent, Staffs.—Surface water sewers for B.C. Tenders by Aug. 29.

Cardiff.—Bute Town nad central area redevelopment main drain scheme for City Council. Deposit £2 2s. Tenders by Aug. 30.

Ceiriog, Denbighs.—Pentrefelin sewerage scheme and sewage disposal works for R.D.C., including the providing and laying of approximately 700yd. of 6in. diameter glazed stoneware pipe, with manholes, and other appurtenant works, including the construction of pump house and complete sewerage disposal works. Documents from R. W. Aubrey, surveyor, Ceiriog R.D.C., Council Offices, Chirk. Deposit £3 3s. Tenders by Sept. 2.

East Kesteven, Lincs.—Heckington and Great Hale sewerage scheme, contract 1, for R.D.C. Deposit £3 3s. Tenders by Aug. 21.

Eastleigh, Hants.—Construction of approximately 210yd. of 9in. diameter g.s. sewer, and 100yd. of 18in. diameter concrete sewer, together with manholes, at Chandler's Ford for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Eastleigh. Deposit £2 2s. Tenders by Sept. 7.

Faversham, Kent.—Sewerage scheme for B.C. Deposit £2 2s. Tenders by Sept. 11.

Forehoe and Henstead, Norfolk.—Costessey sewerage and sewage disposal, section 4, for R.D.C. Deposit £5 5s. Tenders by Sept. 4.

Halifax, Yorks.—Sewer extension at Dodge Holme Drive for B.C., including laying of approximately 90yd. of 9in. diameter earthenware pipes and the construction of precast concrete manholes. Documents from the Borough Engineer, Crossley Street, Halifax. Deposit £1, cheques payable to Corporation. Tenders by Aug. 4.

Holland.—Alterations to the drainage system at the old people's home, Seagate Hall, Long Sutton, for C.C. Documents from the County Architect, County Hall, Boston. Tenders by August 8.

Jersey.—Contract 44 for states sewerage board. Apply by August 7.

London.—Supply of sewer segments for C.C. Deposit £3. Tenders by Aug. 28.

Maidstone, Kent.—Buildings at sewage treatment works for B.C. Deposit £5 5s. Tenders by Sept. 11.

Minworth, War.—Following for Birmingham Tame and Rea District Water Board: Construction of 20 secondary sludge digestion tanks, 175ft. long by 87ft. wide internally, and three alkaline water settling tanks, 175ft. long by 41ft. 6in. wide internally, together with a pumphouse and other associated work. The contract involves the following approximate quantities and work: Excavation, 90,000 cu. yd.; plain concrete, 7,000 cu. yd.; reinforced concrete, 31,000 cu. yd.; cast-iron and concrete mains, and the installation of mechanical and electrical equipment. The site of the works is adjacent to existing works of the Board at Minworth, Sutton Coldfield, Warwickshire. Documents from the office of M. R. Vincent Davis, engineer to the board, Rookery Park, Erdington, Birmingham, 24. Deposit £10. Tenders by Sept. 11.

Minworth, War.—Supply and delivery to Minworth Works of approximately 10 tons of cast-iron flanged pipe specials for Birmingham and Tame Rea District Drainage Board. Documents from the Engineer to the Board, Rookery Park, Erdington, Birmingham, 24. Tenders by Aug. 14.

Minworth, War.—Supply and delivery to Minworth Works of salt glazed stoneware bacteria bed tiles to cover 3,000 sq. yd. of bed floor, and an additional provisional quantity to cover an area of up to 2,000 sq. yd. for Birmingham Tame and Rea District Drainage Board. Documents from the Engineer to the Board, Rookery Park, Erdington, Birmingham, 24. Tenders by Aug. 14.

Poole, Dorset.—Contract 5—sewerage of four private streets Hamworthy, for B.C. (1) About 750 lin. yd. of 6in. diameter s.g.w. sewers and manholes. (2) House drains to about 60 properties. Documents from J. D. and D. M. Watson, consulting engineers, 67 Tufton Street, London, S.W.1. Deposit £5 5s. Cheques crossed and payable to Poole Corporation. Tenders by August 3.

Reigate, Surrey.—Sewers etc., for B.C. Tenders by August 18.

Romsey and Stockbridge, Hants.—North Badsey sewerage for R.D.C., including the construction of approximately 3,800yd. of 18in. diameter spun-concrete sewer, 400yd. of 18in. diameter spun-iron sewer, 900yd. of 15in. diameter spun-iron rising main, 400yd. of 24in. 15in., 12in., and 9in. diameter spun-concrete sewer, manholes, flume chamber, and other works incidental thereto. Documents from Lemon and Blizard, consulting engineers, Hulse Road, Southampton. Deposit £3 3s. cheque.

St. Austell, Corn.—St. Stephen sewerage scheme for R.D.C., involving the construction of sewerage and sewage disposal works. This comprises the enlargement and alteration of the existing works at Gwindra, the construction of three pumping stations, the laying of approximately 950 lin. yd. asbestos-cement rising main, and other ancillary works. Documents from the Engineer, Trevarna, 12 Carlyon Road, St. Austell. Deposit £5 5s. Tenders by Aug. 23.

Slough, Bucks.—Supply, erection and setting to work of additional sewage pumping plant at Cippenham Green pumping station of a capacity of 30,000 gallons per hour, for B.C. Documents from Borough Engineer, Town Hall, Slough. Deposit £1 1s. Tenders by September 4.

Stokesley, Yorks.—Newby sewerage and sewage disposal scheme, for R.D.C., including the following: Sewers—the laying of 1,402yd. of 6in. diameter pitch fibre pipe sewers, 160yd. of 4in. diameter pitch fibre house connections, together with: manholes—23 precast concrete ring segment manholes varying in depth 5-12ft.; ejector station—the construction of a small compressed air ejector station to house two 30 g.p.m. ejectors, comprising well 8ft. by 10ft. 6in. by 15ft. deep and house 14ft. by 10ft. 6in. by 8ft. high together with construction of 160yd. of 4in. cast iron rising main, and appurtenant fencing and site works; sewage disposal works—the construction of two pyramidal sedimentation and humus tanks, percolating filter, sludge drying beds, pump-well and house, together with appurtenant fencing and site works, and regrading of 400yd. of existing stell. Documents from the Engineer and Surveyor, Council Offices, Stokesley. Deposit £5 5s. cheque payable to R.D.C. Tenders by September 9.

***Winsford, Ches.**—Winsford sewerage, phase 1, for U.D.C. Apply by Aug. 5.

STREET LIGHTING

***East Barnet, Herts.**—Public lighting improvement, contract 941, for U.D.C. Deposit £2 2s. Tenders by Aug. 26.

Hawick, Roxburgh.—Supply of 25ft. steel standards and mercury vapour lighting equipment necessary for the installation of 26 street lighting units at Buccleuch Road, for B.C. Documents from Burgh Surveyor, Municipal Buildings, Hawick. Tenders by August 8.

***Hornsey.**—Sodium lighting for B.C. Tenders by Aug. 18.

Mossley, Lancs.—Fixing and wiring lanterns, control gear and time switches in group B street lighting installations, comprising approximately 125 points, for B.C. Documents from Borough Surveyor, Town Hall, Mossley. Tenders by Aug. 14.

Sittingbourne and Milton, Kent.—Supply and erection of approximately 150 group B lamps in various streets. The columns are to be precast concrete, and the lanterns to be 80-watt mercury vapour for U.D.C. Documents from the Engineer and Surveyor, Lydbrook, 89 London Road, Sittingbourne. Deposit £2 2s. Tenders by Aug. 9.

INTERNATIONAL CONTRACTS

Australia.—Following for the Snowy Mountains Hydro-Electric Authority: (Contract 20,063) Geehi dam, Snowy-Geehi tunnel (Geehi section) and appurtenant works. Geehi dam will be a rockfill dam approximately 300ft. high and crest length of approximately 865ft., with central earth core, river outlet works and a morning glory-type spillway. The Snowy-Geehi tunnel (Geehi section) will comprise the construction of approximately 30,000ft. of horseshoe-shaped tunnel partially lined with concrete. The excavated section of the tunnel will be 20ft. 4in. high and 20ft. 8in. wide. Also included in this contract is a 20ft. diameter circular tunnel, approximately 2,400ft. long, connecting the Snowy-Geehi tunnel to the Murray I pressure tunnel, and an outlet-inlet structure, 190ft. high, which will connect to the circular tunnel approximately 30ft. below ground surface level. (20,064) Murray I pressure tunnel and appurtenant works. The Murray I pressure tunnel will be a fully concrete-lined horseshoe-shaped pressure tunnel 22ft. 9in. high by 22ft. 9in. wide and approximately 36,000ft. long. The works also include a section of fully lined circular tunnel, 22ft. 9in. diameter, approximately 2,000ft. long. At the downstream end the tunnel will bifurcate into two 13ft. 9in. internal diameter tunnels, each approximately 600ft. long. Approximately 450ft. of each of these tunnels adjacent to the reinforced concrete surface valve house will be steel lined. At Begong Creek there will be an intermediate intake shaft, 315ft. deep, and an access and drainage adit. Also included in the contract will be a surface surge tank, 150ft. in diameter, connected to the pressure tunnel by a vertical concrete-lined shaft, 27ft. diameter and approximately 350ft. deep. The Authority has recently invited tenders for contract 20,062, Island Bend dam and Snowy-Geehi tunnel (Snowy section) and appurtenant works. The works of contract 20,063 are immediately adjacent to those of contract 20,062; the contents of the tender documents for both contracts 20,063 and 20,064 will, where appropriate, be substantially similar to those of contract 20,062. Tenderers are invited to submit tenders for one or both contracts, and may submit an alternative tender conditional on the Authority accepting their tenders for both contracts. Documents for each contract, available on July 31, 1961, and may be obtained on payment of £1 per set for each contract on application to Chief Procurement Officer, Australia House, The Strand, London, W.C.2, England. Four additional sets of documents for purposes of tendering will be provided free of charge at the time of inspection of the site. Tenders by Oct. 30.

Burma.—Fabrication and laying of a sub-riverine composite multi-products pipeline comprising a 16in. o.d. casing pipe with two internal 6½in. o.d. pipes across the Pegu River, near Rangoon, between the Company's oil refinery at Syriam on the east side and the distillation installation at Dunneedaw on the west. The work includes dredging necessary to bury the pipeline below the river bed for approximately half its length, for the Burmah Oil Co. (1954), Ltd. Applications to Refinery Engineering Department, The Burmah Oil Company Limited, Britannic House, Finsbury Circus, London, E.C.2, by August 7.

AWARDS

BUILDING AND DECORATING

(See also Housing Schemes)

Ashington, Northumb.—Conversion of premises at Ashington Hospital into a nurses' training school for Newcastle Hospital Board—R. Carse and Son, Ltd., Bede Street, Amble. £3,040.

Aspull, Lancs.—External painting of 48 Council houses situated in various parts of the

Hilton estate for U.D.C. P. A. Major, engineer and surveyor—J. Aspinall, 51 Mesnes Street, Wigan, £1,313.

Aycliffe, Dur.—Erection of a church for the Church of Jesus Christ of Latter Day Saints, 6 Tottenham Crescent, Epsom Downs. G. T. Brown and Son, architects, 14 Grange Terrace, Stockton Road, Sunderland—Direct Labour. Work commenced.

Aylesbury, Bucks.—Construction of 112 outbuildings and 20 garages at Coventon Road estate for B.C.—Drabble Construction Co., Ltd., Cannon Street, Wellingborough, Northants., £6,332 and £1,952, respectively (recommended extension of contract, subject to Ministry approval).

Bedford.—Following for B.C.: Extension of cloakroom at Silver Jubilee Secondary Modern School—F. J. Barrington, 13 Newnham Street, Bedford, £1,839 (recommended).

Construction of 22 garages, two garages for motor-cycles and four parking bays at Barley Way and four garages at Brackley Road—G. C. Allen and Son, 24 Lovell Road, Oakley, Bedford (recommended, extension of contract). Estimated cost £4,500.

Belfast.—Erection of primary school for 560 pupils at New Barnsley Park, Ballymurphy, in traditional construction of double and single storeys for City Council—Crawford and Laird, 70 Connaught Street, Belfast, 12. Work is expected to start next month.

Berwick, Northumb.—Erection of grain silo for J. P. Simpson and Co., Ltd., Alnwick. N. Dent, architect, Finkle Street Chambers, Richmond, Yorks. Concrete base—Holst and Co., Ltd., Waddington Street, Durham; steel frame and sheeting—W. Richardson and Co., Ltd., Nesham Road, Darlington. (Silo is part of scheme for maltings. Contracts for other works have not yet been let.)

Bexhill-on-Sea, Sussex.—Alterations at Down County School for Girls—George Stone (Hastings), Ltd., 16 Norman Road, St. Leonards-on-Sea, £4,885.

Birmingham.—Erection of two halls of residence for students (High Hall 20 storeys, and Ridge Hall five storeys) on the Vale Wyddrington site, Edgbaston, for the University—C. Bryant and Son, Ltd., 65 Whitmore Road, Birmingham, 10. Architects are H. G. Wicks, of Harvey and Wicks, Berkeley House, 119 Hagley Road, Edgbaston, and H. Jackson, of Jackson and Edmonds, 25 Augustus Road, Edgbaston, in conjunction with Sir Hugh Casson and Neville Conder; Silk and Frazier, quantity surveyors, 35 Portland Road, Edgbaston; A. J. P. Pashler, electrical and heating consultant, 50 Newhall Street; and Septimus Willis, structural engineer, 41 Water Street.

Bridport, Dorset.—Improvement to 120 South Street, for B.C.—Direct Labour (recommended).

Bristol.—Construction of a chemistry teaching block at Woodland Road/University Walk for the University of Bristol. Courtaulds Technical Services, Ltd., Foleshill Road, Coventry—Holland & Hannen and Cubitts (Great Britain), Ltd., 1 Queen Anne's Gate, London, S.W.1. Estimated cost £630,000.

Broadstairs, Kent.—Erection of a factory for Industrial Colours, Ltd., George Messeruy, architect, 347 Latymer Court, London, W.6.—F. G. Minter, Ltd., 4 Buckingham Gate, London, S.W.1. Estimated cost £60,000. Work has commenced.

Bromley, Kent.—Provision of two temporary classrooms on the site of Princes Plain County Primary School for B.C.—Robert H. Hall and Co. (Kent), Ltd., Paddock Wood (recommended, negotiated tender).

Cardiff.—Erection of a factory for Fixa. Wilson and Cox, architects, 103 Bute Street, Cardiff—G. Percy Trentham, Ltd., Roath Basin, Bute Dock, Cardiff. Work commenced.

Erection of warehouse for William Jones and Son (Cardiff), Ltd., Wilson and Cox, architects, 103 Bute Street, Cardiff—G. Percy Trentham, Ltd., estimated cost £46,000. Work to commence Aug.

Cardiff.—Erection of two workshops and ancillary buildings in connection with factory development at Pengam Moor for Rover Co., Ltd.—G. Percy Trentham, Ltd., Pangbourne, Reading, £1,560,753. Hasker and Hall, architects, Knowle, War; and T. Bedford and Partners, structural consultants, 41 New Bond Street, London, W.1.

Chorley, Lancs.—External painting of 128 dwellings and three garages in the parishes of Anderton, Heath Charnock, Coppull and Heskin (contract 1), and 116 dwellings and four garages in the parishes of Hoghton, Wheelton, Clayton-le-Woods, Whittle-le-Woods, Heapey, Ulnes Walton, Croston and Mawdesley for R.D.C.—(Contract 1) Jackson, Cook and Sons, Ltd., Victoria Street,

- Chorley**, £1,725; (2) **J. Openshaw**, Church Street, Adlington, near Chorley, £1,889.
- Dorchester**.—External painting of 46 houses at Middle Farm housing estate for B.C.—B. J. Howgill, 4 Osborne Terrace, Portland, £600 (recommended).
- Enfield, Middx.**.—Construction of a boundary wall and railings adjacent to the site of Burleigh House, Great Cambridge Road, for B.C.—G. S. Garey and Sons, Ltd., 28 Burleigh Road, Enfield, £1,385 (recommended).
- Eston, Yorks.**.—Erection of old people's home at Eston for the North Riding C.C. R. A. Williams, county architect—J. W. Henderson and Co. (Stockton), Ltd., Church Street, Stockton-on-Tees, £56,580.
- Felixstowe, Suffolk**.—Improvements and extensions to the General Hospital for the East Anglian Regional Hospital Board—Cubitt and Gotts, Ltd., Ipswich, £27,397 (recommended).
- Fort William, Inverness**.—Painting of 46 houses at Claggan for B.C.—W. C. Simpson and Sons, Inverlochy, Fort William, £2,948 (accepted); J. L. Sydie and Sons, £3,118.
- Glasgow**.—Erection of a new institute in Berkeley Street for the 'Highlanders' Institute, 27 Elmbank Street, Glasgow, C.2. Thomson, McCrea and Sanders, architects, 212 Bath Street, Glasgow, C.2; James Bar and Sons, quantity surveyors, 213 St. Vincent Street, Glasgow, C.2—builders: Findlay and McGeechan, Ltd., 1097 Tollcross Road, Glasgow, E.2; joiners: Dick and Bonzies, Ltd., 87 Forth Street, Glasgow, S.1.
- Goole, Yorks.**.—Rehabilitation work at Pasture Road Infants' School for West Riding E.C.—Platt and Featherstone, Ltd., Boothferry Road, Goole, £24,094 (recommended).
- Gosport, Hants.**.—Following for B.C.: Construction of messroom and machinery store at St. Ann's Hill Cemetery and laying of bases for three garages at Gosport Park—Stapleton and Co., Ltd., Brockhurst Road, Gosport, £1,806 (recommended). Conversion, repair and extension at Queen's Lodge, Milvil Road, Lee-on-the-Solent—Hawkins Bros. (Gosport), Ltd., Westfield Road, Gosport, £10,029.
- Great Yarmouth, Norfolk**.—Erection of police headquarters at The Conge for the Watch Committee—H. A. Holmes and Sons, Ltd., South Ice House Hill, Gorleston, Great Yarmouth, £119,830.
- Ipswich, Suffolk**.—Erection of group stores at Heath Road wing of Ipswich and East Suffolk Hospital, for the East Anglian Regional Hospital Board—Cubitt and Gotts, Ltd., Ipswich, £12,684 (recommended).
- Isleworth, Middx.**.—Reconstruction and extension of a major part of the factory at Great West Road for Gillette Industries, Ltd. Dodge and Reid, architects, 72 High Street, Brentford—Kyle Stewart (Contractors), Ltd., Ardshiel House, Wembley Park. Estimated cost £600,000.
- Kensington**.—Decoration work at the Town Hall for B.C.—P.C.S., Ltd., 3 St. James' Square, London, S.W.1, £1,782 (recommended).
- Limavady, Londonderry**.—External decoration at Roe Valley Hospital, W. and M. Given, architects, 1 Waterside, Coleraine—R. Gibson, Catherine Street, Limavady, £1,356.
- Liverpool**.—First phase of rebuilding museum at William Brown Street for City Council—Tysons (Contractors), Ltd., Dryden Street, Liverpool, 5, £280,340.
- Market Harborough, Leics.**.—Construction of a slaughterhouse (approximately 5,000 sq. ft.) to be erected at Springfield Street for U.D.C. H. B. Burrows, architect, 4 Foregate Street, Worcester—George Calverley and Sons (Contractors), Ltd., Evington Valley Road, Leicester, £35,389.
- Minehead, Som.**.—Construction of a holiday camp of 800 chalets, indoor and outdoor swimming pools, two ballrooms and theatre, etc., for Butlins, Ltd.—Butlins Construction Co., Ltd., 439 Oxford Street, London, W.1, estimated cost £3m. Edward Domati, architect, 13 The Paradise, Minehead, and Higgins and Partners, quantity surveyors, 96 Piccadilly, London, W.1. Work to commence in two weeks.
- Morpeth, Northumb.**.—Alterations and additions to the Mona Taylor Maternity Hospital for Newcastle Hospital Board—P. H. Knighton, architect to the Board—R. Carse and Son, Ltd., Bede Street, Amble, £8,596.
- Newburn, Northumb.**.—Erection of clubhouse on the Westerhope municipal golf course for the U.D.C. J. A. Weatherley, surveyor—Direct Labour, £38,383.
- Newcastle upon Tyne**.—Following for City Council: Repainting of the Swing Bridge—Arundel Paint Contractors, Ltd., Louth, Lincs, £3,498; 14 garages at Blakelaw estate, 22 at Fairways estate, and 49 at Tyne Quarry and Wharrier Street—G. M. Pearson and Son, Ltd., 19 Front Street, Hetton-le-Hole, Dur., £2,671, £3,487 and £8,619, respectively (recommended).
- Newton Abbot, Devon**.—Erection of a lecture room wing and farm management laboratory with staff rooms at Seale-Hayne College for College Governors—T. B. Keate and Co., 348 Topsham Road, Exeter. Estimated cost £25,000. Beare and Croydon, architects, 42 Devon Square, Newton Abbot, and W. T. Hills and Co., quantity surveyors, Torwood Street, Torquay.
- Nidderdale, Yorks.**.—Painting 133 houses at Nether Poppleton, Upper Poppleton, Burton Leonard, South Stainley, Nidder Bridge and Scotton for R.D.C.—F. J. Parkyn and Sons, 28 Park Crescent, Knaresborough, £1,427.
- Northallerton, Yorks**.—Offices in inner court-yard at the County Hall for the North Riding C.C.—R. B. A. Moody Brothers, Ltd., 18 East Road, Northallerton, £3,750.
- Norwich**.—Erection of boiler house chimney at Little Plumstead Hospital for the East Anglian Regional Hospital Board—Danks of Netherton, Ltd., Cradley Heath, Staffs., £7,114 (recommended).
- Norwich**.—Erection of Woodside Junior School for E.C.—Ford and Carter, Ltd., Mountergate, Norwich, £57,144.
- Nuneaton, War.**.—Erection of six shops, with showrooms over, at corner of Church Street and Bridge Street for Ravenscroft Properties, Ltd.—William Randall (Hartshill), Ltd., Hartshill, Nuneaton. Fewster and Partners, architects, 22 Conduit Street, London, W.1, and Kenneth Higgins and Partners, quantity surveyors, 96 Piccadilly, London, W.1.
- Okehampton, Devon**.—Erection of the Clinton Primary School at Merton—A. A. Beer, Meadowville Works, Northam Road, Bideford, estimated cost £24,000. Work commenced.
- Queensbury and Shelf, Yorks.**.—Erection of a new four-classroom block at Primary School for the West Riding E.C.—Thomas Feather and Co., Victoria Road, Eccleshill, Bradford, 2, £22,419.
- Rochdale, Lancs.**.—Provision of a mortuary for B.C.—Brierley and Castrees, Mellor Street, Rochdale, £11,602 (subject to Ministerial approval).
- Rugby, War.**.—Erection of a three-storey building at 2 and 2a Market Place for J. Hepworth and Son, Ltd., Leeds—Foster and Dicksee, Ltd., James Street, Rugby, estimated cost £20,000. Ardin and Brookes, architects, 129 Mount Street, London, W.1, and Harris Rourke and Simpson, quantity surveyors, 26 Soho Square, London, W.1.
- Sheffield**.—Erection of warehouse in Petre Street for J. G. Graves, Ltd. Husband and Co., architects, 388 Glossop Road—Braithwaite and Co., Dorland House, Regent Street, London, S.W.1. Estimated cost £250,000. Work commenced.
- Sheffield**.—Conversion of 17-21 Westbourne Road into residential staff training centre

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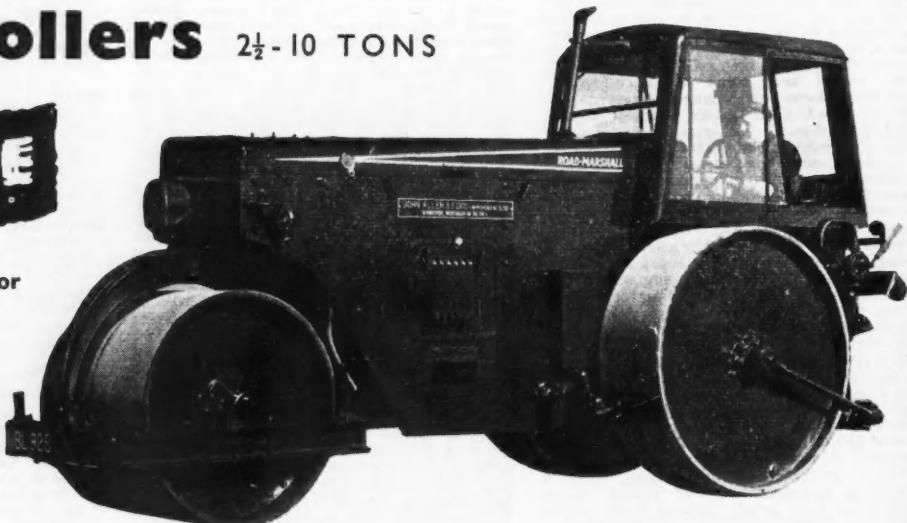
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for United Steel Companies, Ltd. J. Mansell Jenkinson and Son, architects, 53 Wilkinson Street, Sheffield, 10—General contractors—R. S. Hutchinson, Ltd., 430 London Road, Sheffield; 2; heating engineers—G. W. Dawes and Son, Ltd., 147 Holme Lane, Sheffield, 6; electrical contractors—Hall and Stinson, Ltd., 1 Washington Road, Sheffield, 11.

Completion of scheme for converting the Shoreham Street tram depot into bus garage for City Council—Direct Labour (recommended). Estimated cost £53,000.

Stockton-on-Tees, Dur. Alterations and additions to St. Bede's R.C. Secondary School for the Governors—Thomas Hogarth, Dalton Street, West Hartlepool, £3,157.

Stretford, Lancs. Provision of a veterans' meeting room at Longford Park for B.C.—Smith and Alcock, Ltd., 471 Chester Road, Manchester, 16, £3,509 (recommended).

Sunderland, Dur. Erection of Pennywell R.C. Primary School, Hylton Road, P. J. Stienlet and Son, architects, 4 Queen Square, Newcastle upon Tyne—D. Glen, Ltd., Albert Road, Jarrow.

Erection of church in Queen Alexandra Road for the Church of Jesus Christ of Latter Day Saints, 6 Tottenham Crescent, Epsom Downs. G. T. Brown and Son, architects, 14 Grange Terrace, Stockton Road, Sunderland—Direct Labour by the Church Building Department. Work will start shortly.

Sutton and Cheam, Surrey. Re-roofing of the main roof at Malden Road Baths for B.C.—Roberts and Burling, Ltd., 10 Whitehorse Road, Croydon, £818 (recommended).

Sutton, Surrey. Erection of a nine-storey office block with roof car park over shopping development at High Street for Bernard Sunley Investment Trust. H. Owen Luder, architect, 79 Regent Street, London, S.W.1—Bernard Sunley and Sons, Ltd., 25 Berkeley Square, London, W.1.

Swansea. Erection of St. Teilo Church at Caereithin in the parish of Cockett. George G. Pace, architect, 18 Clifton Green, York—Griffith Davies and Co., Ltd., Paxton Yard, Swansea.

Swansea. Erection of a new science laboratory at Oystermouth County Secondary School for B.C.—Griffith Davies and Co., Ltd., Paxton Yard, Swansea, £8,376.

Tredegar, Mon. Erection of garage, workshop and showrooms for Gibbs Bros.—

G. Percy Trentham, Ltd., Roath Basin, Bute Dock, Cardiff, estimated cost £60,000. Work commencing Aug. 14.

Walsall, Staffs. Erection of a lecture and drama room adjoining Bloxwich Library, Elmore Row, Bloxwich, for B.C. C. C. Gray, architect, 15 Bridge Street, Walsall—F. A. and H. Taylor, Ltd., Croxtall Road, Bloxwich, £15,533 (recommended, subject to Ministry approval).

Whitley Bay, Northumb. Additional classrooms at Grammar School for the C.C.—Cawood Wharton and Co., Ltd., Harrogate, £5,073.

Wisbech, I. of E. Painting steel houses for B.C.—H. V. Mallett and Co., 48 Bridge Road, Sutton Bridge, Spalding, £3,309.

Worcester. Erection of a six-storey office block at Blackpole Road for the Midland Electricity Board—T.G. Construction Co., Ltd., Wolverhampton, £190,000.

DEMOLITION

Aylesbury, Bucks. Following for B.C.: Demolition of 46-52 Cambridge Street and 43-51 Whitehall Street—R. L. Hasted, 4a Maldon Terrace, Aylesbury, £160 and £210, respectively; 8, 14 and 16 Oxford Road—W. Button and Son, South Oxhey, Herts., £45 (recommended).

Camberwell. Demolition of following for B.C.: Factory and buildings at the rear of 1-9 Old James Street—W. H. Penfold and Sons, Ltd., Belmont Grove, Belmont Hill, London, S.E.13, £379; remaining property in No. 4 development area (Atwell Street)—W. S. Wright, Ltd., 1 Salisbury Road, Bromley, Kent, £5,931; 18-24 Talfourd Place (Pelican estate extension)—W. S. Wright, Ltd., £437; garages at 187-199 Dunstan's Road, Dawson's Hill area—Goodman Price, Ltd., 3 Portsmouth Street, London, W.C.2, £1,485; 36-39 Boathouse Walk, Jowett Street open space area—Gorst and Co., Ltd., 33 Floyd Road, London, S.E.7, £429 (all recommended).

Gosport, Hants. Demolition of the water police quarters, Trinity Green, and Peacheys Almshouses, Haslar Road, for B.C.—Murray's Transport (Hants), Ltd., 259 Copnor Road, Portsmouth, £60 and £27, respectively.

Rochdale, Lancs. Demolition of (a) 198 Bury Road, (b) 158-176 Platting Lane and 5-9 and 13-21 Back Platting Lane, (c) 112-116 Platting Lane, and (d) 252-256

Halifax Road, for B.C.—W. Sutcliffe, Rochdale, (a) £20, (b) £165, (c) £62 and (d) £59. **Swinton and Pendlebury, Lancs.** Demolition of 12 to 30 Manchester Road, 5 to 19 and 10 to 24 Richmond Street, 1 and 3 Holt Street, and 1 Berry Street, Clifton, for B.C.—Anthony Connell and Co., Ltd., 138 Moss Lane East, Manchester, £430 (recommended).

ELECTRICAL

Belfast. Following for City Council: (a) Electrical installation; (b) heating installation; (c) plumbing installation at proposed Ballymurphy Primary School—(a) James Moore, 273 Antrim Road, Belfast; (b) J. Robinson and Co., Ltd., 37 Pandora Street, Belfast; (c) Down Domestics, Ltd., 5 Wandsworth Parade, Belfast.

C.E.G.B. The Central Electricity Generating Board have placed contracts during the past month for power stations, transmission lines and transforming stations amounting in the aggregate to approximately £9,024,000. The principal contracts include:

Thorpe Marsh power station: water treatment plant—Neckar Water Softener Co., Ltd.; main railway sidings—Henry Boot and Sons (Railway Engineering), Ltd.

Drakelow C power station: main connections, 9 and 10 units—British Insulated Callender's Cables, Ltd.; structural steelwork, stage II—John Lysaght's Bristol Works, Ltd.; one 375-MW turbo-generator 11, condensing, feed heating and evaporating plants and boiler feed pumps—English Electric Co., Ltd.; one 375-MW turbo-generator 12, condensing, feed heating and evaporating plants and boiler feed pumps—Associated Electrical Industries, Ltd.

Bankside power station: water treatment plant—William Boby and Co., Ltd.

West Thurrock power station: structural steelwork for bunkers and framing for boilers 3 and 4—Dawnays, Ltd.

Stockport sub-station: 132-kV and 33-kV switchgear—Associated Electrical Industries, Ltd.

Atherton sub-station two 60-MVA, 132/33-kV transformers and auxiliaries—Yorkshire Electric Transformer Co., Ltd.

Lower Darwen, Bromley Cross/Tottenham, Blackburn sub-station: modifications to Padfield and Lower Darwen 132-kV line terminations at Blackburn sub-station—

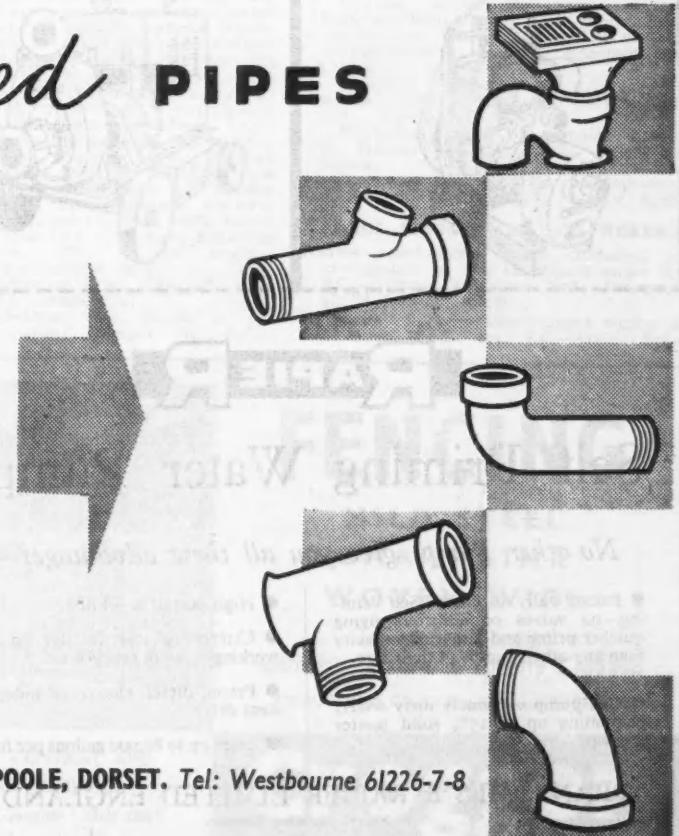
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Cardiff East and West sub-stations: 132-kV and pilot cables between sub-stations, 132-kV cables at Cardiff East—British Insulated Callender's Cables, Ltd., two 30-MVA, 132/11-kV transformers—Brush Electrical Engineering Co., Ltd.

Finchley sub-station: two 30-MVA, 132/6.6-kV transformers—Bonar Long and Co., Ltd.

Barking sub-station: 275/132-kV transformers—Ferranti, Ltd.

Chesterfield sub-station: 132-kV switch-gear—A. Reyrolle and Co., Ltd.

Fulbourn, Cambs.—Electrical services and lift installation in admission unit at Fulbourn Hospital for the East Anglian Regional Hospital Board—Mann Egerton and Co., Ltd., Norwich, £16,788, and Evans Lifts, Ltd., Leicester, £4,440 (recommended).

Gosport, Hants.—Provision of electric points in 96 pre-war houses in the Millpond Road area for B.C.—Bathbrite (Fareham), Ltd., 174 West Street, Fareham, £1,496 (recommended, subject to Ministry approval).

Morpeth, Northumb.—Electrical installation in 89 houses at Spelvitt Lane for B.C.—W. Elliott, Newgate Street, Morpeth.

Newcastle upon Tyne.—Supply of cathode-ray direction finding equipment for the Airport for City Council—Ecko Electronics Ltd., Ecko Works, Southend-on-Sea, Essex, £4,265 (recommended).

Norwich.—(a) Erection of a sub-station and (b) electrical work at Little Plumstead Hospital for the East Anglian Regional Hospital Board—(a) J. Youngs and Son, Ltd., Norwich, £1,282, and (b) Eastern Electricity Board, £2,660 (recommended).

GAS AND WATER SUPPLY

Bakewell, Derbys.—Construction of about 2,200yd. of 3in. diameter asbestos-cement water main, 2,500yd. of 2in. diameter p.v.c. pipes, the installation of pumping plant, and various ancillary works at Tideswell Moor for R.D.C. A. T. Cuckson, surveyor—Z. and W. Wade (Whaley Bridge), Ltd., Buxton Road, Whaley Bridge, Stockport, £17,910 (accepted); Tomlinson and White, £19,963.

Blackburn, Lancs.—Construction of a new water filtration plant at Blackburn for the

Fylde Water Board. Frank Law, engineer—Paterson Engineering Co., Ltd., 129 Kingsway, London, W.C.2.

Durham.—Supply of 6,000yd. of 42in. steel water mains for the Derwent water scheme for Durham County Water Board—Byard and Co. (Engineers), Ltd., Edinburgh, £109,918.

Grangemouth, Stirlings.—Construction of reservoir works at Loch Turret, near Crieff, in the county of Perth, contract 3, for Loch Turret Water Board. Babtie, Shaw and Morton, consulting engineers, 17 Blythswood Square, Glasgow, C.2—Lehane, Mackenzie and Shand, Ltd., Matlock, Derbyshire, £656,340.

Perthshire.—Construction of an impounding reservoir near Crieff for the Loch Turret Water Board—Lehane, Mackenzie and Shand, Ltd., Normanhurst, Matlock, Derbyshire, £650,000.

Wakefield, Yorks.—Civil engineering works for proposed filters at Fixby Ridge, New Hey Road (A.643) for the Wakefield and District Water Board. T. E. S. White, engineer and manager—R. T. Haley and Co., Ltd., Hunsworth, Cleckheaton, £88,194.

HEATING AND VENTILATING

Ashton-under-Lyne, Lancs.—Removal of existing boiler, provision and fixing of a new base of a 12KLR Robinhood low-pressure, hot-water heating boiler and necessary ancillary work, including re-fixing the stoker at Market Hall for B.C.—Harry Taylor, Ebenezer Street, Ashton-under-Lyne, £920 (recommended).

Belfast.—Following for City Council: (a) complete heating installation; and (b) complete plumbing installation at Tower Street Institute for Further Education—(a) Shillington (H. and P.), Ltd., 55a Castlereagh Place, Belfast, 5; (b) Lawthers, Ltd., 193 West Circular Road, Belfast. Work to start next month.

Belfast.—(a) Modifications and additions to heating and plumbing installation, and (b) renewal of electrical installation at Skegmore School of Commerce, Old Cavehill Road for City Council. Barrett and Agnew, consulting engineers, 420 Ravenhill Road, Belfast, 6—(a) Lawthers, Ltd., 193 West Circular Road, Belfast; (b) Fagan and Gilmore, 12 Marment Drive, Belfast.

Enfield, Middx.—Supply and installation of heating and ventilating equipment at the vehicle paint shop, Carterhatch Depot, for B.C.—Matthews and Yates, Ltd., 135 Rye Lane, London, S.E.15, £892 (recommended).

Fulbourn, Cambs.—Mechanical engineering services for admission unit at Fulbourn Hospital for the East Anglian Regional Hospital Board—Barrett and Wright, Ltd., Norwich, £21,232 (recommended).

Ipswich.—Supply of boiler plant and piping and auxiliary plant for boiler house and water tower at the Anglesea Road wing of Ipswich and East Suffolk Hospital for the East Anglian Regional Hospital Board—Davey, Paxman and Co., Ltd., Colchester, £31,572, and W. Richardson and Co., Ltd., London, S.W.1, £45,349, respectively (recommended).

Norwich.—Main engineering services for central boiler house, etc., at Little Plumstead Hospital for the East Anglian Regional Hospital Board—G. N. Haden and Sons, Ltd., Norwich, £100,799 (subject to Ministry approval).

Rochdale, Lancs.—Installation of oil-fired boilers in the greenhouses at Falinge Park for B.C.—J. Cyril Mills and Son, Ltd., 286 Yorkshire Street, Rochdale, £1,388 (recommended).

HOUSING SCHEMES

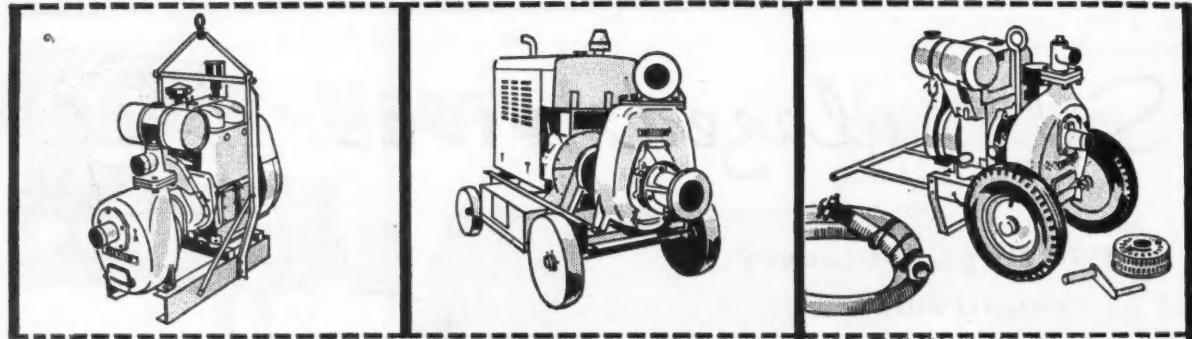
Billesdon, Leics.—Two houses and three garages at Great Glen for R.D.C.—H. M. Dudgeon, Ltd., Leicester, £5,116.

Enfield, Middx.—Following for B.C.: Forty dwelling units and 36 garages at Southbury Avenue housing site—Townsend and Collins, Ltd., 129 Goat Lane, Enfield, £70,437 (recommended negotiated tender, subject to Ministry approval).

Development in Baker Street, junction with Lancaster Road—Townsend and Collins, Ltd., £53,472 (recommended, subject to Ministry approval).

Glasgow.—One hundred and seventy-four three-apartment houses at Garlock Road, Garthamlock for City Council—Direct Labour Department, £398,808 (recommended).

Gloucester.—Ten one-bedroom bungalows at Quedgeley for R.D.C. R. P. Demuth, architect, Regent House, Stonehouse, Glos.—Ashmores (Glos.), Ltd., Tuffley Lane, Bristol Road, Gloucester.



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Gosport, Hants.—Following for B.C.: 10 bungalows at Stoners site, Wych Lane, Bridgemary and 14 Crosswall dwellings at Gorselands Way, Rowner—Hawkins Bros. (Gosport), Ltd., Westfield Road, Gosport, £38,674; 26 Cornish unit dwellings at Gorselands Way/Copse Lane, Rowner—Selleck Nicholls and Co., Ltd., East Hill, St. Austell, Corn., £44,528 (recommended, subject to Ministry approval).

Harehampstead, Herts.—Erection of staff houses at Westfield Cemetery and at the sewerage works for U.D.C.—Smith Bros. (Wheat-hampstead), Ltd., Luton Road, Wheathampstead, £8,867 and £8,127, respectively.

Keighley, Yorks.—Thirty-two houses and road and sewer works at Long Lee, for B.C.—F. W. Heaton (Builders), Ltd., Bingley, £56,351 (recommended, subject to Ministry approval).

Langley, Bucks.—Supply and erection of Nuraphalte roofing for phase I of the Parlaunt Park estate development for B.C.—The Weatherall Roofing Co., Ltd., Whitehall Place, Gravesend, Kent, £22,622. **Morpeth, Northumb.**—Fourteen houses at Scots Gap for the R.D.C. J. R. Miles, surveyor—J. Wilson, Oldgate, Morpeth, £24,865.

Normanby, Yorks.—Eight houses for sale in The Grove for U.D.C.—Fell Construction Co., Ltd., 20-30 Lawfield Lane, Wakefield.

Northern Ireland.—Following for Housing Trust: One hundred and forty-five dwellings and 36 garages, together with ancillary and engineering works, at Lisburn, Roseville—John McMillan and Son, Ltd., Sanda Road, Whitehouse, Belfast; 261 dwellings and 42 garages, together with ancillary works, at Rathcoole (development 11A)—James Logan and Sons (Ballyclare), Ltd., Hillhead Road, Ballyclare, Co. Antrim; 32 dwellings and ancillary works at Camross Park, Rathcoole—James Logan and Sons (Ballyclare), Ltd., Hillhead Road, Ballyclare, Co. Antrim; (a) 37 dwellings and one shop, together with ancillary and engineering works, at Foyle Hill (development III); (b) 22 dwellings and 11 garages, together with ancillary and engineering works, at Elmwood Road—(a) Michael Canning, Deanery Place, Londonderry; and (b) J. T. Robinson (Strabane), Ltd., Patrick Street, Strabane, Co. Tyrone.

Skelmersdale, Lancs.—Twelve houses and 13 bungalows on the Church Farm estate for U.D.C.—O. Molyneux, Berry Street, Skelmersdale, £17,446 and £12,753, respectively.

Skipton, Yorks.—Twelve pairs of old people's bungalows on the Beamsland site, Glusburn, for R.D.C.—Middleton and Co. (Leeds), Ltd., Manor Works, East Ardsley (subject to Ministry approval).

Staveley, Derbys.—Eighty three-bedroom-type brick houses on the Middlecroft estate for U.D.C. D. J. H. Strange, engineer and surveyor—Fleet Bros., Ltd., 72-74 Newgate Lane, Mansfield, Notts., £136,488 (accepted); C. Millward and Co., Ltd., £150,465; H. Boot and Sons (Builders), Ltd., £189,163.

Stretford, Lancs.—Twenty-four flatlets for aged persons with warden's accommodation and communal facilities at Nansen Close for B.C.—Gregory (Housing), Ltd., 21 Farncombe Road, Worthing (recommended). Estimated cost £34,650.

Swinton and Pendlebury, Lancs.—Erection of old people's flatlets at Richmond Street for B.C.—G. and J. Seddon, Ltd., Little Hulton, Walkden, Manchester (recommended, subject to Ministry approval).

Walsall, Staffs.—Following for B.C.: Six 9-storey blocks of flats, containing 34 dwellings and 14 internal ground floor stores; 11 3-storey blocks of flats, containing 66 dwellings and 66 internal ground floor stores; one 3-storey block of 10 shops with maisonettes over; 127 garages and four motor-cycle stores—Wates, Ltd., 1258 London Road, London, S.W.16, £813,017 (recommended, negotiated tenders, subject to Ministry approval).

Twenty-four flatlets at West Bromwich Road—Bishop Burns and Co., 21 Tettenhall Road, Wolverhampton, £40,730 (recommended, subject to Ministry approval).

Provision of a caretaker's flat at the Institute and Workshops for the Blind—C. E. Dudley and Son, Powlett Street, Wolverhampton, £2,026.

West Kesteven, Lincs.—Twenty Homeville traditional houses, flats and bungalows at Skellington for R.D.C.—W. J. Roberts, Bottesford, Notts.

MATERIALS AND SUPPLIES

Bromsgrove, Worcs.—Supply of 1,000 2½ cu. ft. capacity galvanised mild steel tapered dustbins made to the British standard, specification 792, and stamped (on bin and lid) with the letters "B.U.D.C." not less than 1½ in. in size for U.D.C.—E. Hill and Sons, Ltd., Regina Works, Lye, Stourbridge, £1 lls. 4d. per bin.

Gosport, Hants.—Supply of 528 lin. ft. of precast concrete frames complete with 132 pitlights for Gosport Park Nursery for B.C.—Foster and Pearson, Ltd., Beeston, Nottingham, £1,092 (recommended).

MISCELLANEOUS

Newcastle upon Tyne.—Provision of one new twin cremator, with a stand-by forced draft fan and motor, smoke-detecting equipment, etc., for West Road Crematorium for City Council—Dowson and Mason, Ltd., Alma Works, Manchester, 19, £5,586 (recommended).

PLANT AND MECHANICAL TRANSPORT

Acton, Middx.—Supply of a diesel road roller for B.C.—Aveling-Barford, Ltd., Morris House, Jermyn Street, London, S.W.1, £3,051 (recommended).

Aylesbury, Bucks.—Supply of a 5-ton Austin short wheelbase diesel tipping lorry for B.C.—Cogger and Hawkins, Ltd., Walton Street, Aylesbury, £1,116 (recommended).

Newcastle upon Tyne.—Supply of the following for City Council: One 40-ton crane, with 70ft. jib; one 10-ton crane, with 80ft. jib; and one 10-ton crane, with 65ft. jib—Cowans Sheldon and Co., Ltd., St. Nicholas Works, Carlisle, £66,984; £27,970 and £26,600, respectively; one 6-ton crane, with 80ft. jib; and one 6-ton crane, with 65ft. jib—Stothert and Pitt, Ltd., Bath, Som., £24,520 and £23,370, respectively; two Massey-Ferguson 35 semi-industrial tractors, Victor stormguard cabs and full road lighting set—Fewsters, Ltd., Garden Street, Blaydon, £1,460; two sets Ransomes mounted triple gang mowers, cutting width 7ft., suitable for use with Massey-Ferguson tractor—R. H. Patterson and Co., Ltd., Forth Street, Newcastle upon Tyne, £589; three Ransomes multi-mowers, 30in. cylinder model—Northern Agricultural Supply Co., Ltd., 176-196 Scotswood Road, Newcastle upon Tyne, £484 (recommended).

Stratford-upon-Avon, War.—Supply of one mechanical street sweeper for B.C.—

Johnston Bros., Ltd., Vincent Lane, Dorking, Surrey, £3,450 (recommended).

Wisbech, I. of E.—Supply of cesspool emptier for B.C.—S. C. Sharpe, Ltd., 46 Norwich Road, Wisbech, £2,708, less £368 for old vehicle.

PLAYING FIELDS, PARKS, ETC

Norwich.—Re-siting of two hard tennis courts and provision of surrounding steelwork at medical staff quarters, Norfolk and Norwich Hospital, for the East Anglian Regional Hospital Board—May Gurney and Co., Ltd., Trowse, Norwich, £1,213 (recommended).

RAILWAY ENGINEERING

British Railways.—Following contracts placed:

Sheffield.—Construction of a railway marshalling yard at Tinsley—Lehane, Mackenzie and Shand, Ltd., Matlock, Derbyshire, £1m.

Southern Region:

Extension of electrification, Ashford, Kent: steelwork for the staff accommodation—The Fairfield Shipbuilding and Engineering Co., Ltd., Chepstow, Mon.

Coulson: strengthening of Bletchingley Road bridge—Aubrey Watson, Ltd., Henley-on-Thames, Oxon.

Fishbourne Halt: new staff accommodation—F. W. Hill (Bognor Regis), Ltd., Bognor Regis, Sussex.

Clapham Junction to Vauxhall: aerial survey—Fairey Air Surveys, Ltd., near Maidenhead, Berks.

Holborn Viaduct to Blackfriars: aerial survey—Fairey Air Survey, Ltd., near Maidenhead, Berks.

Portsmouth: new telephone exchange—John Lay and Co. (Portsmouth), Ltd., Portsmouth, Hants.

Angerstein Works: heating installation to switch and crossing shop—Clark Hunt and Co., Ltd., Enfield, Middx.

Battersea Park: reconstruction of Pig Hill bridge—Dormak Long (Bridge and Engineering), Ltd., Luton Beds.

Cliffe: reconstruction and widening Cliffe Bridge—Leonard Fairclough (London), Ltd., London, N.W.5.

Woking: reconstruction of Wych Hill bridge—Aubrey Watson, Ltd., Henley-on-Thames, Oxon.

Exmouth Junction M.P.D.; new staff accommodation—Stephens and Son, Ltd., Exeter.

Waterloo: station renovations—Alfred Bagnall and Sons, Ltd., Teddington, Middx.

Victoria: station alterations, catenary lighting—Pirelli-General Cable Works, Ltd., Southampton, Hants; modernisation of Continental inquiry office—A. Edmonds and Co., Ltd., London, E.C.I.

Eastleigh: ventilation of C. and W. works—George E. Taylor and Co. (London), Ltd., London, S.E.1.

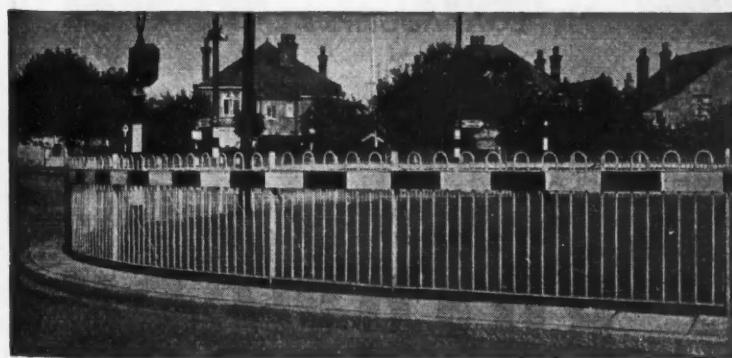
Newhaven: renewal of pumping main—K. Mikolay and Son, Ltd., Newhaven, Sussex.

Dumpton Park: station renovations—C. Predeh (Builders), Ltd., Margate, Kent.

ROADS, BRIDGES AND SITE WORKS

Ashton-under-Lyne, Lancs.—Surfacing of carriageways on the Hazelhurst estate for B.C.—Tarmac Roadstone, Ltd., Liverpool, £2,309 (recommended).

Aylesbury, Bucks.—Improvement works at Bicester Road, for B.C.—Frain Bros.



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(London), Ltd., Cable House, 1 Lyonsdown Road, New Barnet, Herts., £22,126 (recommended, subject to Ministry approval).
Ayrshire.—Construction of the second stage of the Ayr-Prestwick By-pass road for C.C.—John Wright and Co. (Edinburgh), Ltd., Earls Gate Works, Grangemouth, Stirlings. Estimated cost £225,000.

Bedford.—Resurfacing of carriageways during 1961-62 for B.C.: Roads Reconstruction (Contracting), Ltd., Wellingborough, £3,159 (recommended).

Bromley, Kent.—Provision of parking accommodation for the Municipal Offices at the rear of 90-96 Tweedy Road for B.C.—Direct Labour (recommended). Estimated cost £2,600.

Cardiff.—Resurfacing Queen Alexandra Dock for British Transport Commission—G. Percy Trentham, Ltd., Roath Basin, Bute Dock, Cardiff, estimated cost £93,000. Work just commenced.

Derbyshire.—Derby-Chesterfield trunk road, A.61: Reconstruction of bridge over Alfreton Brook, Alfreton Hill, for C.C. S. Mehew, county surveyor—Martin Cowley, Ltd., The Limes, High Street, Clay Cross, £11,126. Work to commence next week.

Enfield, Middx.—Following for B.C.: Construction of playground, etc., at George Spicer Central School annexe—Hugh Pearl Contracts, Ltd., Bovingher, Ongar, Essex, £1,428; laying of the final asphalt macadam carpet in connection with the Old Park Avenue improvement—Amalgamated Roadstone Corporation, Ltd., 15 Stanhope Gate, London, W.1, £1,741 (recommended).

Hawarden, Flint.—Formation of a car park at Shotton for R.D.C.—F. G. Whitley and Sons Co., Ltd., Leadbrook, Padeswood Road, Buckley, Flint, £2,844.

Hucknall, Notts.—Surface dressing of approximately 48,000 sq. yd. of carriageways and 3,400 sq. yd. of footpaths (including two tennis courts) for U.D.C. A. S. Martin, engineer and surveyor—Bituminous Road Facilities, Ltd., Wilton, Wilts.

Kiveton Park, Yorks.—Construction of a footpath at Anston Stones Wood for R.D.C.—J. W. Revill and Sons, 70a Lidget Lane, Dinnington.

Leicestershire.—Improvement at the White Horse Inn, Pickwell, for C.C., comprising the demolition of the inn and the widen-

ing and realignment of the road, together with footpath, drainage and all ancillary work. R. R. W. Grigson, county engineer and surveyor—H. Collington and Sons, Ltd., Stockwell House, Wymeswold, Leics. Work commencing September.

Middlesbrough, Yorks.—Construction of roads in connection with new community buildings at Berwick Hill for B.C.—Direct Labour, £7,650.

Normanton, Yorks.—Surfacing of new car park for U.D.C.—Tarmac Civil Engineering, Ltd., Wolverhampton, £1,612.

Richmond, Surrey.—Widening of Sheen Road between Lichfield Court and The Square, for B.C.—T. Vickers, Ltd., 288 Kingston Road, Leatherhead, £19,874 (recommended).

Rochdale, Lancs.—Diversion of Oliver Road for B.C.—James McGowan, Ltd., 25a Oldham Road, Rochdale, £2,774.

Stirlingshire.—Construction of Denny By-pass for C.C. F. A. MacDonald and Partners consulting engineers, 11 Woodside Terrace, Glasgow, C.3—Crowley Russell and Co., Ltd., 16 Blythswood Terrace, Glasgow, C.3, £1,840,000.

Stretford, Lancs.—Making-up of Warwick Road South for B.C.—J. A. Uttley, Ltd., Albany Road, Manchester, 21, £2,454 (recommended).

Sunbury-on-Thames, Middx.—Making-up of Sunbury Court Road and Govett Avenue (part) for U.D.C.—M. Mansell and Sons, 203 Bilton Road, Perivale, £2,103 and £3,420, respectively. Work commencing this month.

Sunderland, Dur.—Construction of a new road from Robinson Terrace to Gray Road for B.C.—Direct Labour, £48,615.

Teignmouth, Devon.—Construction of roads and provision of water supply to Laurel Farm estate, Ringmore, Shaldon, for U.D.C.—J. H. Hooper and Sons, 3 Northumberland Place, Teignmouth.

Tyrone.—Erection of a prestressed concrete bridge over River Foyle at Lifford for C.C.—Farrans, Ltd., Dunmurry, Belfast, £104,588.

Walsall, Staffs.—Following for B.C.: Site levelling works at Sneyd Lane Canal Arm for future housing development—Direct Labour (recommended). Estimated cost £1,900.

Surfacing of the forecourt and driveway at Bloxwich Fire Station—Davis, Watson and Elliotts, Ltd., Alvaston Street, Derby, £1,393.

Wokingham, Berks.—Carpeting 11,280 sq. yd. of estate roads and 4,600 sq. yd. Denmark Street car park, with kerbing, drainage, and incidental works, for B.C.—Constable, Hart and Co., Lower Drayton Lane, Cosham, Portsmouth, £1,596, and Asphalt Carpets, Ltd., 38 Buckingham Palace Road, London, S.W.1, £1,800, respectively. Work to commence next month.

SEWERAGE, SEWAGE AND REFUSE DISPOSAL

Ashton-under-Lyne, Lancs.—Following for B.C.: Reconstruction of the Plantation Farm Sewage Disposal Works. Charles J. Lomax and Son, civil engineers, 68 Barton Arcade, Manchester, 2—R. T. Haley and Co., Ltd., Hunsworth, Cleckheaton, £343,318; installation of a single-cut-type sludge lifting machine at Sewage Disposal Works—Hartley's, Ltd., Kearsley Chambers, Stoke-on-Trent, £8,500.

Reconstruction to Warrington Street sewer—R. T. Haley and Co., Ltd., £4,046.

Stage 2 of the sewer reconstruction scheme and the construction of a storm water outfall under the Ashton Canal—C.V. Buchan and Co., Ltd., Burgess Hill, Sussex, £110,493 (all recommended).

Bedford.—Construction of the north eastern area surface water drainage scheme and the improvement of sewers at Hassett Street for B.C.—James Miller and Partners, Ltd., Hayes, Middx., £197,546, and H. C. Jones and Co., Ltd., 183 High Town Road, Luton, £10,979, respectively (recommended, subject to Ministry approval).

Beeston and Stapleford, Notts.—Extension of the Beeston Sewage Disposal Works for U.D.C. B. H. Pattinson, engineer and surveyor—Richardson and Cooney, Lincoln Street, Nottingham, £154,400 (accepted); G. A. Pillatt and Sons, Ltd., £155,627; Martin Cowley, Ltd., £166,824; J. W. Stamp, Ltd., £177,771; Thomas Bow (Nottingham), Ltd., £214,000.

Blairgowrie and Rattray, Perths.—Laying of 1,027yd. of 12in. to 24in. diameter concrete sewer pipes, together with brick manholes and other incidental work for B.C. Donald M. Grant, burgess surveyor—Horsburgh, Murray and Co., Ltd., 5 Fairfield Road, Dundee, £9,093 (accepted); William Briggs and Sons, £9,755; Laird Bros., £9,877; Charles Gray (Builders), Ltd., £12,652; Jas.

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Leith, Junr., Ltd., £12,858; D. and R. Taylor, Ltd., £13,942; John Macadam and Sons, Ltd., £14,226. Work is expected to start in September.

Bradfield, Berks.—Construction of the Bradfield Village sewerage scheme for R.D.C.—William Young, Loen Kiln Ride, Wokingham (recommended, subject to Ministry approval). Estimated cost £10,000.

Bromley, Kent.—Conditioning of the central area of Norman Park, including construction of a watercourse culvert, for B.C.—E. Doe and Sons, (Contracts), Ltd., Ongar, Essex, £14,274 (recommended).

Inverness.—Laying a new sewer in part of Culduthel Road for B.C., involving approximately 320 lin. yd. of 12in. diameter fire-clay pipe and ancillary works. J. W. Buick, borough surveyor—Alex. Fraser (Contractors) of Inverness, Ltd., Harbour Road, Inverness, £5,675 (accepted); George Duncan and Co., Ltd., £5,944; William Tawse, Ltd., £7,127. Work is expected to start next month.

Kerrier, Corn.—Laying of about 800 lin. yd. of 9in. and 6in. diameter sewers, together with the construction of concrete manholes, and all ancillary works at Mullion for R.D.C. Harvey McGill and Hayes, consulting engineers. 8 Richmond Road, Exeter—Hendersons (Contractors), Newquay, Ltd., The Barn, Quenchwell Road, Carnon Downs, Truro, £9,052. Work commenced.

Nidderdale, Yorks.—Sewage disposal works for Knapton and adjacent parishes for R.D.C.—J. E. Bailey, Ltd., Wetherby, £34,792.

Rochdale, Lancs.—Reconstruction of storm-water overflows in Drake Street and John Street and cleansing etc., or section of main Roch Valley sewer and the construction of surface water sewer at Kingsway Secondary Modern School for B.C.—M.R.Q. Construction Co., Ltd., Stampstone Street, Oldham, £11,508, and James McGowan, Ltd., 25a Oldham Road, Rochdale, £739, respectively.

South Cambridgeshire.—Sawston sewerage and sewage disposal scheme (contract 2) for R.D.C., comprising about 9,000yd. of 6in., 7in., 9in., 12in. and 15in. glazed stoneware, concrete and spun-iron sewers; the construction of three pumping stations in reinforced concrete, with brick superstructure; 2,300yd. of 4in., 7in., and 12in. spun-iron pumping mains, and a sewage disposal works, consisting of balancing tanks, flow recorder flume and channel, four settlement tanks, four circular percolating filters, three humus tanks, 10 sludge drying beds, two post-tensioned concrete sludge digestion tanks, mess room and store, re-circulation and sludge pumping station, access road, paths, embankments, fencing, etc., and all other appurtenant works.

Lemon and Blizard, consulting engineers, 59 Tufton Street, Westminster, S.W.1—Marshall-Andrew and Co., Ltd., St. Andrew's House, Broadway, St. James' Park, London, S.W.1, £289,355. Work commencing mid-August.

Sunderland, Dur.—Sewer in Chester Road for B.C. T. Donkin, borough engineer—F. M. Willers, Ltd., 49 Grange Road, Darlington, £23,256.

STREET LIGHTING

Doncaster, Yorks.—Lighting of Thorne Road for R.D.C.—Concrete Utilities, Ltd., 11 Albert Square, Manchester, £1,970.

Llanelli, Carm.—Sodium lighting on trunk road A.48 (Crosshands) for R.D.C.—South Wales Electricity Board, 56 Stepney Street, Llanelli, £1,292 (accepted); Revo Electric Co., Ltd., £1,251; Abacus Municipal Ltd., £1,274; G.E.C., Ltd., £1,295; Eleco, Ltd., £1,315; A.E.I. Lamps and Lighting Co., Ltd., £1,352; S. A. Inston and Co., £1,417. Work commencing September.

Rochdale, Lancs.—Laying of street lighting cables in various streets for B.C.—T. Doherty, Rochdale, £2,526.

GOVERNMENT CONTRACTS

Air Ministry.—Contracts to the value of £4,000 or over for the week ended July 14:

Building work: Newton, Notts.—W. and J. Simons, Ltd., West Bridgford, Nottingham. Artificers' work: Heywood, Lancs.—G. and J. Seddon, Ltd., Little Hulton, Walkden, Manchester; Feltwell (Norfolk), etc.—Laughton and Fuller, Ltd., Brandon, Suffolk.

Heating services (renewal of heating mains): Stafford.—Geo. S. Hall, Ltd., Stoke-on-Trent, Staffs.

Roadwork (alterations and reconstruction): London (Heathrow) Airport, Hounslow, Middx.—Stanley Hugh Leach, Ltd., Hayes, Middx.

Electrical services—modification to airfield lighting and electrical mains distribution: Kemble and Little Rissington, Glos.—T. Clarke and Co., Ltd., 110 Drury Lane, Aldwych, London, W.C.2.

Ministry of Works.—Contracts placed for week ended July 8:

Buckinghamshire: M.O.L. Hostel, Bath Road, Cippenham—internal and external painting—T. H. Kenyon and Sons, Ltd., Chancellor's Works, Croxley Green, London, N.W.10.

Devonshire: Telephone Exchange, Plympton—extension—Humphreys, Ltd., Market Place, Plympton.

Fifeshire.—Anstruther—erection of diesel alternators—Blackstone and Co., Ltd., Dursley, Glos.

Kent.—Imperial Telephone Exchange, Chislehurst—alterations and redecorations—W.P. Banks, Ltd., Dunton Green, near Sevenoaks.

Leicestershire.—Post Office, Rothley—erection of telephone exchange—Bradshaw Bros. (Contractors), Ltd., The Ferns, 117 Loughborough Road, Leicester; Post Office, Quorn—extension of telephone exchange—Wm. Moss and Sons, Ltd., Queens Road, Loughborough.

London.—Hanway House, Red Lion Square, W.C.1—internal decorations—South London Decorators, Ltd., 9-11 Streatham High Road, S.W.16; Somerset House, Strand, W.C.2—external decorations—South London Decorators, Ltd.; Admiralty, North Block, Whitehall, S.W.1—attendance on engineers and internal decorations—Sykes and Son, Ltd., 8 Essex Street, Strand, W.C.2.

Midlothian.—Loanhead—erection of office building—J. Monteith, Ltd., 6 White Hart Street, Dalkeith.

Northumberland.—Edward Street, Blaydon, Newcastle—erection of automatic telephone exchange—Cussins (Contractors), Ltd., The Drive, Gosforth, Newcastle upon Tyne.

Somerset.—Street—erection of Post Office and telephone exchange—Roberts Bros. (Contractors), Ltd., Taunton Road, Bridgwater.

Suffolk.—Security Training Prison, Blundeston, Lowestoft—laundry machinery—Rhodes and Westlake, Phoenix Works, Keyleigh, Yorks.

Yorkshire.—Hallas Road, Kirkburton—erection of telephone exchange—T. Wimpenny and Co., Ltd., Linthwaite, Huddersfield; Sheffield—erection of telephone exchange—Henry Boot and Sons (Building), Ltd., 130 Station Road, Old Whittington, Chesterfield.

War Department.—Contracts placed for the week ended July 7:

Dorset (Wyke Regis).—building—A. E. Farr, Ltd., Westbury.

Hampshire (Worthy Down).—water supply—A. J. Dunning and Sons (Weyhill), Ltd., Andover.

Leicestershire (Melton Mowbray).—building—E. Clarke and Sons (Melton Mowbray), Ltd., Melton Mowbray.

Monmouthshire (Beachley).—building—Joseph Cartwright, Ltd., London, S.W.16.

Warwickshire (Long Marston).—miscellaneous—J. H. Woodward, Ltd., Leamington Spa.

Yorkshire (Catterick Camp).—painting—A. Hector Graham, Ltd., Sunderland.

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Trade and Company News**NEW COMPANIES**

The undermentioned particulars of new companies recently registered are taken from the daily register compiled by Jordan and Sons, Ltd., company registration agents, 116 Chancery Lane, London, W.C.2.

George V. Thomas (Rhiwbina), Ltd., 144 Wenaallt Road, Rhiwbina, Glam., builders. £1,000. Directors: George V. Thomas and Mrs. Valerie J. Thomas, 144 Wenaallt Road, Rhiwbina, Glam.; Sarah J. Reynolds, 131 Manor Way, Whitchurch, Glam.

Beeby and Co., Ltd., 20 Cannon Street, Wellingborough, builders. £3,000. Directors: Sydney W. Cox, Geoffrey W. Cox, Mrs. E. M. Cox and Mrs. D. M. Cox, all of 1 Thomas Street, Wellingborough.

Tomlinson and White, Ltd., Cavendish House, Cavendish Street, Chesterfield, builders. £2,000. Directors: Harry White, 22 Greenway, Wingerworth, Chesterfield; Ralph D. Brailsford, 10 Coppice Close, Broomfield Avenue, Hasland, Chesterfield.

Stockport Plant Hire, Ltd., 6 St. Annes Passage, Manchester, 2. £1,000. Directors to be appointed by subscribers. Subscribers: S. D. Crawford, 44 King Street, Manchester, 2 (accountant); J. S. Hunt, 13 Prestbury Avenue, Manchester, 14 (accountant).

H. and J. Construction Co., Ltd., builders. £1,500. Directors: Henry J. Murdoch and June M. A. Murdoch, Rotherwood, Pishiobury Drive, Sawbridgeworth, Herts.

W. E. R. Howell and Son, Ltd., 15 Dix's Field, Exeter, Devon, builders. £5,000. Directors: Wm. E. R. Howell and Mrs. Adeline M. Howell, Rotherwood, Higher Hooern, Pennsylvania, Exeter.

Northwich Plant Hire and Contractors, Ltd. £100. Directors: Sylvia E. Coleman, 16 Victoria Road, Northwich, Ches.; Thomas Holian, 76 Frederick Street, Widnes.

Superior Designs, Ltd., 51 Ditchling Rise, Brighton, Sussex, builders. £100. Directors: Leslie J. Wood, 28 Fairway Crescent, Portslade, Sussex; Geoffrey H. Gilbody, 51 Ditchling Rise, Brighton, Sussex.

Laeven (Successors), Ltd., constructional, mining, underground civil engineers. £100. Directors to be appointed by subscribers. Subscribers: E. A. Blackmore, 41 Park Square, Leeds, 1 (solicitor); Donald Best, 15 Gladstone Road, Rawdon, Leeds (clerk).

Park Concrete Block Co., Ltd., Fitzwalter Road, Sheffield. £5,000. Directors: Percy Hassall, Moscar Lodge, Moscar, near Sheffield; John C. Hassall, 22 Meadow Grove Road, Totley, Sheffield.

L. A. Sweet and Co., Ltd., 10 West Street, St. Philips, Bristol, 2, builders. £1,000. Directors: L. A. Sweet, and Mrs. B. J. Sweet, 2 Cleeve Lodge Road, Downend Bristol.

Matthews Bros. (Ashford), Ltd., 9a Woodthorne Road, Ashford, Middx., builders. £1,000. Directors: Roland R. Matthews, 50 Linkscroft Avenue, Ashford; Percy Matthews,

57 Viola Avenue, Stanwell; Eric Matthews, A. Hilton and Son, Ltd., 21 Gildredge Road, Eastbourne, builders. £1,000. Directors: Francis A. E. Hilton, 19 Western Avenue, Polegate; Roy A. Thorogood, 6, Cambridge Road, Eastbourne; Edgar W. H. Ely.

Chas. Taylor and Son (Westcliff), Ltd., 157 Westborough Road, Westcliff-on-Sea, builders. £2,000. Directors: Chas. N. Taylor and Lady Emily Taylor, 456 Victoria Avenue, Southend-on-Sea; Alexr. C. Taylor.

Sunnyfields (Parkstone), Ltd., 5a Parkstone Road, Poole, Dorset, builders. £100. Directors: Jack S. Allen and Mrs. Norna W. Allen, 18 Pearce Avenue, Parkstone, Poole.

E.H.R. Construction Co., Ltd., Trelawn House, North Bar, Banbury, Oxon, builders. £1,000. Directors: Wm. B. B. Edge, 12 Old Grimbsbury Road, Banbury; Hugh R. Harper, 279 Daventry Road, Coventry; Fdk. H. Radmall.

Modern Building Co. (Wembley), Ltd., 89 Oakington Manor Drive, Wembley, £100. Directors: Alice L. Stebbings and Joyce E. Stebbings, 89 Oakington Manor Drive, Wembley.

C. H. Reynolds and Sons, Ltd., 5a Nansen Road, Sparkhill, Birmingham, 11, builders. £2,500. Directors: Mrs. F. M. Morris, 16 Glen Rise, Kings Heath, Birmingham, 14; Miss Jean A. Reynolds, 107 Stonnor Road, Hall Green, Birmingham, 28; Rose L. Reynolds and Cyril B. Morris.

D. Best (Builders), Ltd., Meadowview, Woodcock, Nutley, Sussex. £300. Directors: Dennis Best and Mrs. Ada Best, Meadowview, Woodcock, Nutley, Sussex; Mrs. Dawn Ede, Beverley, Courtlands, Nutley, Sussex.

T. H. Andrews and Sons, Ltd., Sladbrook House, Luckington, near Chippenham, Wilts., builders. £600. Directors: Thomas H. Andrews, Sladbrook House, Luckington, near Chippenham, Wilts.; Kenneth F. Andrews, The Royal Ship, Luckington; Leslie T. Andrews.

D. J. Williams (Contractors), Ltd., 1 Mortimer Street, Birkenhead, builders. £2,000. Director: David J. Williams, 37 Park Road, Wallasey.

G. G. Hulbert and Co., Ltd., builders. £1,000. Directors not named. Subscribers: G. G. Hulbert, 2 Firtree Close, Birmingham, 22c; H. I. Rutherford, 15 Weston Road, Birmingham, 19.

Honest Builders, Ltd., 16 John Dalton Street, Manchester, 2. £100. Directors to be appointed by subscribers. Subscribers: Z. Greene (secretary) and H. M. Greene (accountant), 50 Welbeck Grove, Salford, 7.

Forge Co., Ltd., Forge House, Donnington, near Chichester, builders. £2,500. Directors: Fredk. G. Boswell and Chas. P. Boswell, Forge House, Donnington.

Distinctive Homes (Doncaster), Ltd., 1 Church Walk, Hatfield, near Doncaster, builders. £100. Directors: George T. Andrewhart, 3 Crabgate Road, Doncaster; Janet Milnes, 1 Church Walk, Hatfield, near Doncaster; Joan Phillips.



Merton Engineering Co., Ltd., have recently appointed Thos. W. Ward, Ltd., as exclusive distributors of the Merton range of loading shovels for the Midlands and part of South East England. The picture shows Mr. D. C. Coates, Thos. W. Ward's London manager, receiving their first Merton Frontloader 59 from Mr. M. Lipman, home sales manager of Merton Engineering

U.S. ROOF COATING MATERIAL FOR BRITAIN

A HEAVY duty roof coating material known as Zone has been introduced into this country from the United States by the sole agents for the United Kingdom, George E. Gray (Distributors), Ltd., Ilford, Essex.

The roofing material is made from purified asphalt, tung oil, Canadian long fibre asbestos and two patent additives which form a tough, unbroken, watertight skin over an entire roof area.

Among the features claimed for Zone liquid roof coating is its ability to be applied to a damp roof without loss of waterproofing qualities. Any moisture remaining on the roof during application is automatically forced upwards and evaporates on the surface, leaving a waterproof covering.

It is also claimed that the cost of roof replacement can be reduced considerably by application of the material, which can be applied by unskilled labour. There is no need for heating or thinning of the material, which can be broomed on to a roof straight from the drum.

Used in conjunction with the material is a heavy duty roof primer, designed to provide bonding with the roof coating in cases where the roofing material is absorbent. Glass fibre asphalt patching fabric, impregnated and preserved with specially-prepared asphalt, is also available for use where there are cracks or damage to the roofing.

LORRY-MOUNTED AIR COMPRESSOR

A lorry-mounted two breaker air compressor has been produced by The Lead Wool Co., Ltd., Snodland, Kent. It is motivated by the Ford 592E diesel engine, which is of the four-cylinder, overhead-valve type and drives the compressor through a centrifugal clutch.

The compressor unit is the company's type AC3F which has a piston displacement of 147 cu. ft. per minute and delivers approximately 120 cu. ft. of free air per minute at 1,350 r.p.m. The unit is fitted with an independent air receiver, having a capacity of 6.2 cu. ft., and a fuel tank holding 12.5 gallons.

The whole is mounted on a specially modified Ford chassis, powered by a Ford petrol engine. The overall dimensions are 5ft. 6in. wide and 13ft. 7in. long, and the total weight is 48cwt.

Special attention has been paid to providing accessibility to the diesel engine and compressor. These are low mounted on the chassis and a platform has been provided all round the vehicle. The canopy can be removed in one piece by removing nine bolts.

Provision is made inside the canopy for the compressor unit to carry two heavy concrete breakers, hose and ancillary tools.

TRADE NEWS IN BRIEF

A technical information sheet on "Application of Mastic Asphalt to Multi-Storey Garages" has been published by The Natural Asphaltine Mine-Owners and Manufacturers Council, 14 Howick Place, Victoria Street, London, S.W.1.

Cranes (Dereham), Ltd., Dereham, and Crane Fruehauf Trailers, Ltd., North Walsham, have moved their London office from Sicilian House, Southampton Row, to 8 York Buildings, Adelphi, W.C.2. Tel.: Trafalgar 1781.

Two new toilets—the general-purpose Devon model and the Derby economy model—have been announced by Elsan Manufacturing Co., Sanitas House, Clapham Road, London, S.W.9.

A new technical brochure dealing with the subject of dense base courses with tar or bitumen is available from the Federation of Coated Macadam Industries, 37 Chester Square, London, S.W.1.

Scaffolding (Great Britain), Ltd., have opened a new depot at Finmere Road, Eastbourne. Tel.: Eastbourne 6228.

From Keir and Cawder (Engineering), Ltd., Kirkintilloch Road, Bishopbriggs, By Glasgow, a publication (No. 109/61) illustrating their patent Rok-Feeders which have now been marketed.

Trade and Company News**WORLD'S LARGEST RUBBER-TYRED TRACTOR DOZER MAKES BRITISH DEBUT**

THE first 600-h.p. Michigan four wheeled Tractor Dozer Model 480 to be imported to this country was landed recently at London Docks and sold immediately to R. A. Davis (Midlands), Ltd., for work at Polesworth where it is being used on major earthmoving projects.

The Model 480 incorporates the Michigan power train, power shift transmission, torque converter and planetary wheel driven axles, a 12 cylinder Cummins turbocharged diesel engine Model V.12 developing 600 maximum horsepower. For maximum traction, widebase tubeless tyres, 9ft. high, are standard equipment.

The top speeds are 28 m.p.h. through four forward and reverse gears. The 480 has a working weight of 47 tons and for heavy duty earthmoving operations is fitted with a 14ft. wide dozer blade, with built in pusher block.

Some of the statistics are as follows:— Height 12ft. 4in.; width 12ft. 2in.; length (with blade in operating position) 27ft.; wheelbase 11ft. 6in.

Hydraulic control provides down pressure for heavy dozing and the blade can also be tilted 15 degrees to left or right by means of a double acting tilt cylinder to cut shoulders and ditches..

The machine costs approximately £33,000.



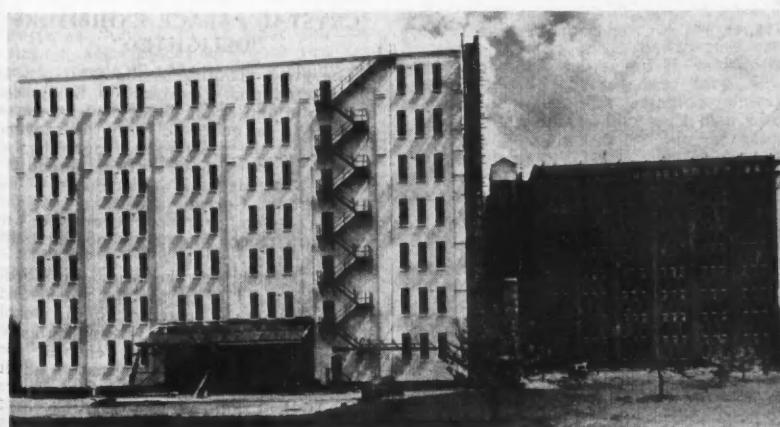
Tractor Dozer Model 480

NEW DURABLE COATING APPLIED TO WAREHOUSE WALLS

A TOTAL wall area of 20,000 sq. yd. at the bonded warehouse of John Player and Sons, Ltd., at Wollaton Road, Nottingham, is being sprayed with a new textured coating which is

said to be guaranteed against chipping or flaking for ten years.

The material is known as Kenitex and is a heavy-bodied texture coating with an elastic base combining good protective and



The bonded warehouse on which the new wall coating is being used

LARGE DIAMETER BORING MACHINE

THE Ka-Mo G-160, a horizontal boring unit capable of boring 36in. diameter holes, has been announced by the Kwik-Mix Co., 235 W. Grand Avenue, Port Washington, Wis., a division of Koehring Co., U.S.A.



Boring in progress

The new machine consists of a 52-h.p. air cooled petrol engine, hook rollers and engine base, three-speed transmission and gear reduction with clutch, 9 g.p.m. hydraulic pump powering the feed mechanism, levelling outriggers, track, and connecting plates.

Ratings for the G-160 range from 150ft. of 36in. diameter hole to 200ft. of 12in. diameter, both maximum calculations for drilling with casing.

insulating properties. It is manufactured by Kenitex Textured Coating, Ltd., Spirella House, Oxford Circus, London, W.I., and was introduced into this country from America last year.

Abbott of Harrow, Ltd., are carrying out the decorating contract on the warehouse, which comprises two seven-storey blocks and one nine-storey block. The exterior of all the buildings was previously covered with old camouflage paint applied during the war.

The surfaces are being prepared by wire brushing. Along the top of each building, where the rendering has deteriorated, it is being removed, and Gunite applied by Cementation, Ltd. Ken-Dri silicone sealer is applied over the Gunite prior to the Kenitex which is sprayed onto the walls from scaffolding. Special equipment pumps air and the material to a gun, which applies it at high pressure.

Two teams of operators are working in phases at the rate of up to 200 sq. yd. per day per gun in accordance with a carefully planned programme organised by the main contractors, Cementation, Ltd., to allow for re-rendering and the erection of scaffolding. The contract is expected to be completed in 4-5 months.

Steel Fabricators (Cardiff), Ltd., announce the formation of Steelfab (France) S.A., 72 Avenue J. J. Rousseau, Houilles (S.O.), France, as a manufacturing and sales company.

Talking of Safety

by
"DRAGEE"

AUTOMATIC safety devices sometimes have an unfortunate habit of behaving in an unexpected manner—and the consequences can be disastrous.

Events follow a certain pattern: a new machine is produced; a certain feature produces accidents; a gadget to stop the accidents is eventually added; an unexpected fault causes a sudden failure—and someone gets hurt.

The safety appliances commonly associated with modern goods hoists are generally excellent, particularly those items of equipment which are required by law and have been well tried—the self-acting brakes, the automatic trip gear, and so on. but occasionally some well-meaning but misguided enthusiast gets a bright idea which has turned out to be not so bright after all.

One morning I received an urgent phone call from Alan Dickson, one of our site agents, in which he informed me that he had designed a new type of safety gate for his hoist.

"Is it working?" I asked.

"Sure thing. Come over and have a look."

The site was only an hour's drive away, and I set off immediately after lunch. Alan was waiting for me in his office, and I saw immediately from his woeful expression that something had gone wrong.

"What's happened? Safety gate packed up?"

He nodded. "And worse still, one of the chaps got hurt a bit. He had a knock on his left shoulder, but he's back at work now."

We stepped into the office and sat down.

"We only made one set, for the bottom level," Alan continued, "then something went wrong with one of the guides. It happened just after I phoned you."

"Shall we go and have a look at it?" I suggested.

"O.K. Only it's a bit of a mess now. We

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

had to cut away part of the frame to get Sammy out."

Alan's safety gate turned out to be a timber frame filled with expanded metal, and hung by two cables from a pair of overhead blocks. The rest of the outfit consisted of a rather primitive system of links, actuated by the hoist driving gear in such a way that the gate was automatically lifted as the hoist platform approached ground level, and came down again when the platform was raised.

This time it must have been my own expression that was eloquent, because Dickson hurriedly explained:

"Of course, this was only an experimental job. But I think you agree the idea's pretty sound?"

"I'm sorry," I said. "Only since you've asked me, I think the idea's lousy. However you'd better tell me exactly what happened."

It appears that Sammy had just wheeled a load of bricks on to the platform when a sudden jar caused him to turn quickly. He noticed that one of the two ropes holding the gate had broken, and he was on the point of hurrying through the opening when the second connection broke and the gate fell, striking his shoulder on the way down. He fell back on to the platform. The men who went to release Sammy found that the gate had jammed, and Sammy was now a prisoner in the tower. I think he was more upset by the indignity of the situation than by his injuries, and his feelings were not improved by the comments of some of the interested lookers-on, who uttered words of comfort and encouragement, such as: "What do you want for supper?", "Look out—here comes the missus" and "Don't worry, Sammy. We're having a whip-round."

As we walked back to the office I said:

"You know, I hate to discourage people who are taking an interest in safety, but even if this thing had worked properly it wouldn't have complied with the regulations. The important thing is that the gates should be closed before the hoist starts to move, and they must stay that way until it comes to rest. You might even find that an arrangement like this falls foul

of the regulations requiring dangerous parts of machines to be securely fenced, and then we'd have to fit special gates to keep persons away from yours. Anyway, keep trying—only let me know next time when you think up something. I might be able to assist with the snags."

Even well-established safety appliances on hoists can be out-witted unintentionally. A colleague of mine recently told me of an instance where two scaffolders had just replaced the head pulley after raising the mast to a higher working level. The winch rope had been disconnected, and the platform—which was used as a working stage—was supported entirely by the emergency safety gear. When the rope was re-reeled through the platform carriage sheave, a sharp pull released the safety gear, and the platform crashed to the ground. The two men were badly injured, but they escaped with their lives. If the safety gear had operated on the way down they would have probably been less fortunate.

All too often, experience is gained at the cost of suffering. In this case the lesson was quite simple: never to allow persons to rely upon safety devices which may be affected by temporary alterations.

PREMATURE TO ABANDON FIRM-PRICE TENDERING

Should fixed price tendering be abandoned? The question has been considered by the general purposes committee of the Association of Municipal Corporations following a report of difficulties experienced in obtaining tenders for building work and disparity in prices when tenders are received on a firm-price and alternatively on a fluctuating-price basis.

Dealing with this, the committee state: "Some other member corporations have been experiencing similar problems, but we do not think that these are in the main associated with the type of tender; we feel that the trouble is accentuated by the fact that the building industry is reaching a point at which it has not the capacity to undertake all the work which is being offered."

"As regards increases in the amounts added to fixed-price tenders as compared with fluctuating-price tenders, we believe that these may be attributed to several factors which building contractors have had to consider recently when compiling tenders; for example, changes in national insurance contributions, working hours and holiday-with-pay schemes and the introduction of the graduated pension scheme.

"Some of this uncertainty may well disappear as conditions become more settled and we certainly think that it would be premature at this stage to consider the abandonment of fixed-price tendering. Which type of tendering is used is, however, in our view, a matter best left to individual local authorities for decision in the light of all relevant local circumstances."

CRYSTAL PALACE EXHIBITORS "DELIGHTED"

The great majority of the exhibitors at the International Construction Equipment Exhibition at Crystal Palace had expressed themselves as delighted with the tangible results of the exhibition, especially as regards increased inquiries from abroad.

This was part of a statement made by Mrs. Freda Corbet, chairman of the L.C.C.'s general purposes committee, in reply to a recent question concerning the results of the exhibition.

Total attendance, she said, was about 33,000 over the 10 days. She added that the Parliamentary Secretary to the Board of Trade had referred in glowing terms to the exhibition, which had enabled the B.o.T. to gain first-hand information about transport problems at the Crystal Palace site. He had said that it was an excellent exhibition site and that its future as such would be considered by all concerned.



MUNICIPAL ENGINEERS VISIT HAWKRIDGE IMPOUNDING RESERVOIR

Progress of £320,000 Bridgwater Project

MEMBERS of the South Western District of the Institution of Municipal Engineers recently visited the Hawridge Reservoir, now being constructed in the northern foothills of the Quantocks for Bridgwater Borough Council.

The reservoir, which will have a length of approximately $\frac{1}{4}$ mile, will occupy part of a narrow valley with steeply sloping sides. Its capacity will be 190,000,000 gallons and its yield is estimated at 1,650,000 gallons per day.

The height of the dam, which will be of mass concrete, will be 77ft. and its thickness will range from 45ft. at the base to 9ft. at the top. Some 35,000 cu. yd. of concrete will be used in its construction. It will be straight on plan and measure approximately 500ft. in length. A road will traverse its top and built-in inspection galleries will enable the engineers to

keep a close watch on its behaviour. The spillway has been designed for a maximum discharge of 5,000 cusecs, equivalent to 2,500 m.g.d. and the dam, which is of the gravity type, will easily withstand the thrust produced by the worst anticipated floods.

Arising out of the proposed submersion of stretches of adjacent county roads it has been necessary to carry out some road diversions and these are now almost completed.

In an endeavour to safeguard the exceptional beauty of this part of the Quantock country the services of Mr. S Colwyn Foulkes, the landscape architect, have been retained. His master plan for the preservation of the rural appearance of the area will be followed meticulously and Bridgwater Council propose to allow fishing in the reservoir; car parking facilities for that purpose are being made available. Similarly, viewing bases are being

provided on the adjacent road by the County Council, as an appreciable influx of motorists is expected as soon as the works have been completed.

The consulting engineers for the scheme are John Taylor and Sons, of Westminster, and the main contractors are M. J. Gleeson (Contractors), Ltd. The resident engineer is Mr. H. F. Thompson, A.M.I.C.E.

The cost of construction is in the region of £320,000 and the work is anticipated to be completed in the spring of 1962, although impounding will probably commence in the late autumn of 1961.

Bridgwater borough engineer is Mr. N. J. Fisher, B.Sc.(Hons), A.M.I.C.E., M.I.Mun.E., A.M.I.W.E.

EXTENSIONS FOR LONDON PUBLISHERS

Cubitts Awarded £285,000 Contract

A contract, worth £285,000 has been awarded to Holland & Hannen and Cubitts (Great Britain), Ltd., for extensions to the head office of Hodder and Stoughton. Work on the site, at St. Paul's House, Warwick Lane, London, E.C.4, is due for completion in March, 1963.

The new extension has been designed by Victor Heal and Partners, London. A steel-framed building of six floors and a basement, it will more than double the present size of St. Paul's House, providing an additional 30,000 sq. ft. of office space.

Dutch Facing Bricks

The front of the building will be faced in Portland stone to first-floor level with 2in. multi-coloured facing bricks, imported from Holland, above, while the rear will be clad in faience up to first-floor level with brick above. The extension will be linked to the existing building on every floor except the ground, where there will be a car park fitted with a turntable for manoeuvring cars.

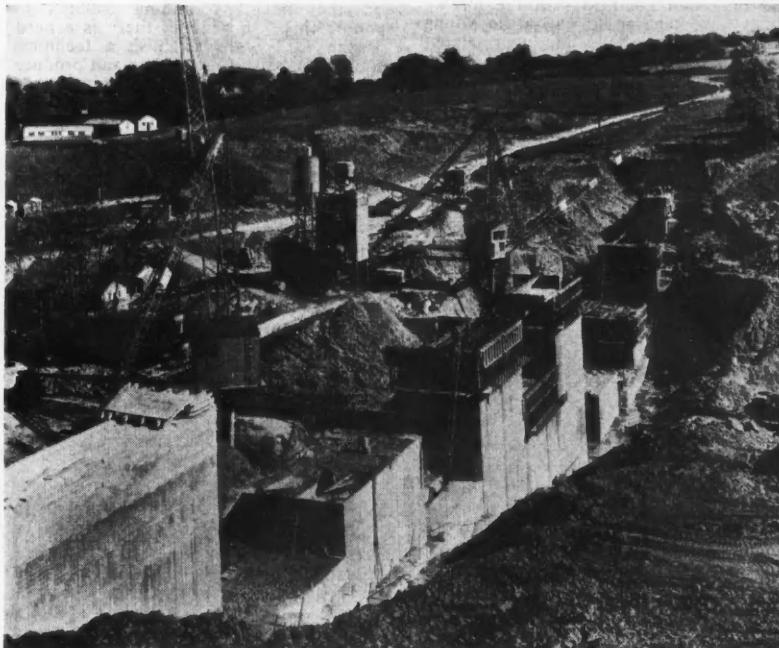
Suspended ceilings will be installed throughout, with recessed lighting and the building will contain two passenger lifts and reinforced concrete stairs and floors.

Consulting engineers are Hurst, Peirce and Malcolm and the quantity surveyors Sydney Gordon and Partners.

MOTOR VEHICLES REGISTRATIONS

Motor vehicles registered for the first time and for which duty was paid under the Vehicles (Excise) Act during June, 1961, numbered 135,600 compared with 134,627 in the corresponding month of last year, according to provisional figures issued by the Ministry of Transport today.

The number of cars registered for the first time last month was 84,600 compared with 84,603 in the corresponding month of 1960.



The dam under construction

(Concluded from page 466)
It is not cheap and therefore the message must not be a wasted one: before advertising think hard on what you are trying to achieve and at whom you are aiming. Some ill-considered attempts by quite large firms are pathetically wide of the mark, assuming that they have a target at all. Think hard, too, of quid pro quo advertising because of a mention in the editorial columns. No reader is so foolish as not to see through that little game.

"For the smaller firm the handbill delivered in the right letter box is a very effective sales vehicle. I speak with some experience for quite recently, requiring a plumber with some urgency, I remembered a small handout found one evening on the mat and stuffed into a drawer in the kitchen. He was with me within the hour.

"But the Press can be used in other ways. Somebody once said that the difference between advertising and public relations was that in advertising you blow your own trumpet whilst in public rela-

tions you get somebody else to blow it for you. However this may be there is one thing worth remembering—if you have a good story you don't have to pay to get it told. By and large, newspapers are hard-up for real news and if—and it is a big 'if'—you have news, they will certainly print it. First establish contact with your local press, know the man who wants the news, watch out for the news and then let him have it. Don't force it for it won't work, but you would be surprised how newsworthy much of your activity is, and in this respect don't be proud, get your press friend to give you a little lecture on newsworthiness. Mind you, some news like an accident on the site, or the collapse of a building, or the overturning of a crane is bad public relations, and it is curious how this hits the headlines without any effort on your part at all. But fast building is news, new techniques, complicated operations, hazardous work, saving money, are all news items as are a thousand others, and don't forget the technical press, particularly if you want to impress architects.

"Of course, if you have a few thousand to spare and if you think there is something in public relations, then hire yourself a good public relations firm to advise and look after your affairs. You could do this for as little as £1,500 and as much as you want to pay. National contractors now have their own public relations departments but this talk is directed not at the big boys who have learnt long ago the value of public relations but at the smaller people with a limited budget who may not have realised that they too should be thinking along these lines. My advice is buckshue.

"There may be many in the audience who have already given these matters hard thought and acted accordingly in formulating a sales policy and organised themselves to carry it out: to them I apologise, but if there are any whom I have stimulated by these random thoughts into thinking afresh then I am content, for as I said at the beginning the public relations of a firm affect the public relations of the industry, and in this the National Federation is vitally concerned.

CHARTERED SURVEYORS' ANNUAL CONFERENCE

Reports of Discussion Groups

AT the annual conference of the Royal Institution of Chartered Surveyors, held at the University of Leicester from 4th-8th July, eight discussion groups considered different aspects of the surveying profession arising out of the general theme of the conference, "The Art of the Surveyor in Practice".

The following is a summary of some of the reports of the chairmen of the groups:

Group A: Surveying as a learned profession. The world needs a profession learned in the use and development of land, a profession which is deeply familiar with the nature and characteristics of all real property and which can speak with authority upon the implications to society of the matters with which surveyors are concerned.

All surveyors, despite their diversity, are rooted and united in the land. The learning of surveyors—which should proceed from educated minds—should be built upon a common basic philosophy.

The surveyor's function is usually to advise—the final decision normally being taken by someone else. A surveyor has a duty to give his clients explanation and advice free from jargon, "technicalia" and mystery, even though this may encourage some clients to consider that they are equally as expert in certain matters such as, for example, valuation.

Group B: Ethics of professional practice. A surveyor should not take on work that he is not really competent to carry out. He must use his best endeavours on behalf of his clients, but, at the same time,

he has a duty to the public and also a further duty to his own conscience. A good chartered surveyor should not only be technically competent but should also be known by his personal reputation.

Registration of estate agents would be a big step towards ending the "rat race" in this field. The problem has always been the unqualified man who is not bound by the code of any professional society, and registration must make for an improvement in this situation in the long run. The R.I.C.S. should maintain its own standards, should those laid down by the Registration Council prove to be lower. Registration might well help the surveyor's work to be recognised by the public as being fully professional.

Group C: Recruitment for the profession. There is a shortage of chartered surveyors at present, particularly in general practice and quantity surveying, and possibly to a lesser extent in building surveying and agriculture and land agency. The somewhat uncertain conditions in the mining industry are tending to encourage young men to consider the estate management section of the National Coal Board rather than the technical section.

The profession cannot compete adequately with industry and commerce for recruits, but it must be competitive with other professions.

Women are not generally aware of the opportunities that exist in the profession, particularly for graduates and more especially in large offices. However, some chartered surveyors are possibly a little prejudiced against women, and do not attempt to see if they can be employed.

Apart from graduates in estate manage-

ment from Cambridge and London, graduates of the newer universities should be encouraged to enter the profession. Full account should be taken of the fact that they have a degree, and they should be paid accordingly.

At the other end of the scale, careful consideration should be given to the establishment of a "second tier" of the profession, for boys who do not reach grammar school level. These entrants could very easily have certain professional work delegated to them. The "graduation" from second tier to first tier should be capable of achievement within a reasonable time, and this might entail a review of the conditions for entry to the Direct Final examination of the R.I.C.S.

Group E: Technical Information. There is a need for technical information, in order that chartered surveyors should be kept well informed. The need is fairly well met in building surveying and quantity surveying, except for information on overall costing and on the testing and maintenance of certain materials. The legal aspects of the profession are also well covered by existing sources.

In particular, there is a lack of up-to-date literature in the mineral estate management field, and the R.I.C.S. should collaborate with the National Coal Board and the university mining colleges to sponsor this. In general, there is a need for the R.I.C.S. to establish a technical information service, to collate and produce technical information and also to exchange it with other bodies. Full-time staff would be required at the R.I.C.S. for this purpose.

Group F: Office organisation. Offices of chartered surveyors are so diverse in size and character that it is difficult to generalise on possible improvements, other than to say that there is a very great number of machines available today, which can improve both speed and efficiency. Organisation and methods surveys are often invaluable.

Noting that the R.I.B.A. has recently come down heavily in favour of using international standard paper sizes, it would be worthwhile for the R.I.C.S. to consider standardising its paper sizes.

MODERNISING THE A.1

Another Level Crossing To Go

The level crossing at Hopperton in the Nidderdale Rural District of Yorkshire—one of the few remaining on the Great North Road—is to be replaced by a road bridge.

Mr. Ernest Marples, Minister of Transport, has authorised the West Riding County Council to award a contract to the Dowsett Engineering Co., Ltd., for the construction of the bridge and a diversionary road, at a cost of £270,956. Work is expected to start almost immediately.

The scheme provides for the construction of a dual carriageway road with an overall width of 74ft., bridged over the railway to the east of the level crossing. The diversion will be about 1,400yd. long and involves the formation of approach embankments of about 50,000 cu. yd. of filling.

Skew Span

The bridge will have a skew span of 60ft. and a width between parapets of 74ft. It will have a composite deck of reinforced concrete and universal steel beams supported on mass concrete abutments. The abutments will be founded on vertical and raking piles from which the wing walls are cantilevered.

In addition, approximately 600yd. of the present carriageways at the southern and northern ends of the scheme will be realigned. There will also be a short link road to the New Inn Farm.

The scheme has been designed by Col. S. Maynard Lovell, O.B.E., T.D., county surveyor of the West Riding, who will also supervise the work.

LONDON DEVELOPMENT FEATURES 21-STORY TOWER BLOCK

A CONTRACT is about to be placed for the erection of a new building, including a 21-storey tower block, on the site of Century House in Westminster Bridge Road, London, S.E.1, for London Merchant Securities, Ltd.

In addition to the tower block, the building will consist of a link block with an open ground floor and four storeys above, and a third block on five floors and base-

ment. A petrol filling station is incorporated in part of the ground floor of the tower block. The block will be served by eight high-speed lifts and equipped with oil-fired central heating.

The scheme has been designed by Devereux and Davies, the consulting engineers being Clarke, Nichols and Marcel. The quantity surveyors are H. R. Heasman and Partners.



A model of the building

WORK STARTS ON £2½M. HAMPSHIRE BREWERY

Provision For Further Expansion

ON a six-acre site bordering the River Wey at Manor Park, Alton, Hampshire, John Laing Construction, Ltd., have started building the first complete brewery to be undertaken in Britain since before the war.

The project, due for completion early in 1963, is the £2½m. Harp Lager Brewery of Arthur Guinness Son and Co. (Park Royal), Ltd., and Courage, Barclay and Simonds, Ltd., who have also been joined in the enterprise by Mitchells and Butlers, Ltd.

The layout and process plant of the new brewery has been developed by a joint committee of the two companies. The engineering and architectural design, including the mechanical and electrical services, has been carried out by John Laing and Son in co-operation with a staff of engineers seconded by Arthur Guinness Son for this work. The quantity surveyors are Andrew Roberts and Partners.

The new brewery will have a total floor

area of about 116,000 sq. ft. and is to comprise six main interdependent sections with provision for possible future expansion. There will be a two-storey grain handling block for the reception of the raw material and a connected five-storey building will house the grain silos. There will also be a four-storey office and laboratory block, three-storey brewhouse, single-storey refrigeration plant and a five-storey fermentation and storage block. Extensive use is to be made of instrumentation and automatic control in the operation of the brewing plant.

The main building will be of steel-framed construction on piled foundations. The silo and fermentation blocks are to be clad in aggregate-faced precast concrete panels. Facing bricks will be used for the cladding of the grain handling, brewhouse and refrigeration blocks, and curtain walling for the office and laboratory building. Also included in the project are various external works and ancillary buildings, including a boilerhouse, maintenance stores and workshops.

£2½M. HOSPITAL REBUILDING CONTRACT

Tenders This Autumn

TENDERS will be invited in September or October for the first stage in the reconstruction of the Hillingdon Hospital, Middlesex. It is anticipated that the contract, estimated to cost £2½m., will be placed by February next year.

The first stage consists of three phases: the demolition of existing buildings on the site, the construction of temporary and permanent access roads, and the erection of the majority of the buildings, including the out-patient and main ward blocks. Contracts for the second and third stages, comprising the erection of additional wings to the ward blocks, will be let at a later date.

Consultants

The scheme has been designed by the architectural department of the North West Metropolitan Regional Hospital Board. The following have been appointed as consultants: Collins, Melvin and Ward, 15 Manchester Square, London, W.I., consultant architects; Davis, Belfield and Everest, 9 Ashley Place, London, S.W.1, quantity surveyors; W. V. Zinn, Collingham Place, Eagle Street, London, W.C.1, structural engineering consultants; and J. Stinton, Jones and Partners, 21 Gloucester Place, London, W.I., consulting mechanical and electrical engineers.

BUILDING MATERIAL TESTS AT MIDLANDS COLLEGES

Colleges in the West Midlands region are to assist the Building Research Station with exposure tests. Within the next few months most of the colleges which offer building courses will be establishing sites where building materials will be exposed to the weather and day to day records maintained of weather conditions and of effects noticed in respect of the durability of the materials under test.

A committee is being formed which will suggest to the colleges particular items for exposure. These items may then become the subject of a grouped report and the information offered to the Building Research Station.

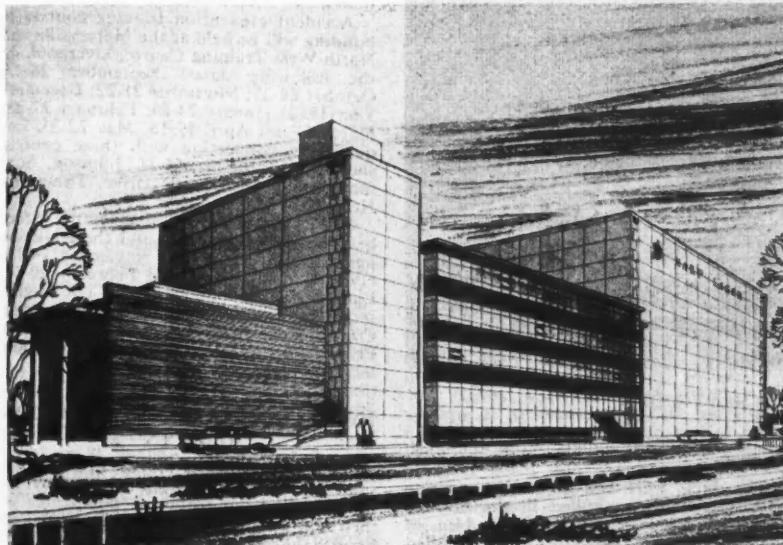
Mr. R. T. Wilkins, head of the department of building at Hall Green Technical College, Birmingham, has stated that within one or two years from now, the scheme would be a reasonably going concern, and information of local and national interest would be forthcoming.

good deal to the experience gained from Worsley.

"I do not believe the scheme could have taken shape and succeeded had it not been for the support and co-operation of the County Council. I believe it is this success at Worsley which has encouraged vigorous co-operation by the Lancashire County Council in overspill schemes elsewhere to meet the needs of the wholly built-up areas.

"Not long ago I was invited to address a meeting of the County Councils Association on this very subject of overspill. My experience, I told them, was that if a county council were willing to take a hand and help, it made all the difference to the successful progress of agreements between a big city and a district council outside to build in the latter's territory for people from the city.

"They gave me a splendid hearing, and I feel sure we are going to see more county councils taking up this challenge and actively participating in joint agreements to secure building in the right places, where land is available, for people who cannot get decent homes in the cities because there is not enough land."



Artist's impression of the new brewery

LAND SHORTAGE IN CITIES

Minister on a Slum Clearance Problem

MR. HENRY BROOKE, Minister of Housing and Local Government, said at Worsley, Lancashire, last week that the sheer land shortage in the cities was typified by the fact that since the war Salford which had six times the population of Worsley, had been able to build fewer new houses and flats within its own boundaries than Worsley had done.

Mr. Brooke, who was opening the three-thousandth house built for overspill purposes at Worsley, said, "The special significance of this great house-building project in Worsley is that a County Council has combined with a City Council and an Urban District Council to carry it through. None could have done it alone.

"After the war, Salford, like many other places, was faced with an acute housing problem. Ten years later when they made

a survey they estimated that nearly a quarter of all the houses in the city were unfit for habitation.

"There was virtually no land within the city which could be used for building the new houses that were essential before a real start could be made on clearing the slums. And Salford is hemmed in on every side. I saw all this myself when I paid a very interesting visit to Salford two years ago. The nearest available land was as far west as Worsley.

"Thanks to the enlightened good sense of everybody, agreement was reached in 1948 to enable building to go forward in Worsley for Salford people. The aim now is 4,500 houses, so we are two-thirds of the way. That agreement was drawn up long before Parliament in 1952 passed the Town Development Act. That Act, which reached the Statute Book when Mr. Macmillan was Minister of Housing, owed a

G.P.O. SERVICES EXTENSIONS AT LONDON AIRPORT

Works Allow For Future Development

THE closure of No. 5 runway at London Airport for extension and modification also enabled a number of other improvements to take place which will allow future development to proceed without affecting the operation of this runway.

Amongst these works is the extension of a G.P.O. 12-way multiple duct, consisting of two six-way ducts which have a theoretical maximum capacity of 12 x 1,400 pair cables. This duct is being taken from No. 5 runway for a length of 2,000ft. and will cater for all foreseeable future development

one buckets. The digging rate of these machines averaged some 45 cu. yd. per hour. In the pit area, considerable ground-water inflows were experienced. The peak inflow amounted to some 12,000 g.p.h., the base of the excavation being kept dry however, by two UVS2 Sykes Univac pumps.

Where the line of the duct crossed the taxiway a 300ft. length of 18in. thick high strength mass concrete, surmounting a 6in. dry lean mix base was required to be broken out, this being effected with four Consolidated Pneumatic type 117 paving breakers, the air being derived from a C.P.



Excavating for cable ducts with a J.C.B. 4

on No. 2 maintenance area on the southern side of the airport. Among the known projects anticipated here is the new commissary building for Pan-American World Airways.

Some eight manholes, specially shaped to allow the maximum access at junction points along the route, have also been installed, these being of brick construction with 12in. reinforced concrete roofs and Elkinson Gatic frames and covers to take the weight of a 35-ton aircraft wheel load.

The line of the new duct crosses an old filled ballast pit and also a taxiway to the Pan-American servicing hangar. The trench for the ducts was excavated 3ft. 6in. wide and maximum 12ft. deep, with two JCB.4 hydraulic excavators fitted with three-in-

rotary Power Vane compressor of 210 cu. ft. capacity.

The ducts were laid on a 6in. concrete base, this being backfilled in the taxiway area with dry lean mix to within 14in. of the surface. The remaining 14in. was filled with concrete of the same specification as that taken out, the 8in. top slab having a strength at 28 days of 6,000lb.

The excavations for the manholes were carried out by the JCB.4s to a depth of 10-12ft. these varying in section from 18 to 12ft. square.

The works were carried out by the Air Ministry Works Directorate for the Ministry of Aviation and G.P.O. The contractors were Stanley Hugh Leach, Ltd.

£20M. TILBURY DOCK DEVELOPMENT

A SCHEME for the development of Tilbury docks at a cost of £20m. is proposed by the Port of London Authority. Work involves extensive civil engineering and dredging, shed and crane construction, and the rerouting of road and rail connections.

The main feature of the project is a new dock, over a mile long, to be built on waste land to the west of the existing cargo berths. Plans provide for the construction of four berths initially, and a further eight, subsequently giving a total dock area of about 6,000ft. long and 600ft. wide.

The road system within the new docks will provide links with the trunk road from London to Tilbury, and with the area south

of the Thames via the Dartford to Purfleet tunnel, due to be completed in 1963.

Work on the scheme is expected to begin in about two years' time, and will take several years to complete.

£1M. MARSHALLING YARD CONTRACT

A £1m. contract for the construction of railway marshalling yard at Tinsley, Sheffield, has been placed with Lehane, MacKenzie and Shand, Ltd., of Matlock, Derbyshire.

The work involves the excavation of 4,500,000 tons of earth which will have to be hauled two miles and the contract is expected to take 28 months to complete.

BIG RESORT PLANNED FOR TOWYN

A MULTI-MILLION pound project to build a completely new seaside resort is planned for Towyn, Merionethshire.

The resort, to be called Bron-y-Mor, has been planned by John H. D. Madin, the Birmingham architect, on behalf of Bishton Holdings, Ltd., Bromsgrove.

The development area covers approximately 40 acres of land lying between the existing town of Towyn and the sea front.

The scheme provides for some 1,000 dwellings of varying sizes for permanent and seasonal use. A population in the region of 3,000 persons is envisaged. There will be over 30 shops of varying sizes, a motel with over 100 dwelling units, a 12-storey hotel with between 300-350 bedrooms, which can be used purely as an hotel or partly to incorporate luxury service flats.

There will also be a conference hall, a lido with a sliding roof, an entertainments centre and car parking for 2,000 vehicles will be made available.

It is proposed to complete the scheme within four to six years.

MERSEYSIDE SAFETY COURSES PROGRAMME

Accident prevention training courses in building will be held at the Merseyside and North-West Training Centre, Liverpool, on the following dates: September 26-27; October 24-25; November 21-22; December 5-6; (1962) January 23-24; February 27-28; March 27-28; April 17-18; May 22-23. Enquiries in connection with these courses should be made to A. H. Johnson, hon. secretary, 31 Beaumaris Drive, Thingwall, Wirral.

Some courses on civil engineering safety have also been arranged and these will be held on October 17-18; November 14-15; (1962) January 16-17 and February 20-21. Enquiries should be made to C. E. Rigby, secretary, Federation of Civil Engineering Contractors, North Western Section, 1 Princess Street, Albert Square, Manchester, 2.

JOHN THOMPSON'S NEW LONDON OFFICES

Complete centralisation of their London sales organisation has been achieved by the John Thompson group of companies in their new building at Woburn Walk, Duke's Road, London, W.C.1.

The building forms an east wing to Tavistock House of the British Medical Association. Care has been taken to match the original building and tone with the architectural styles of the neighbourhood. Internally, the floor area has been divided into offices by steel partitioning and throughout there are acoustic ceilings, incorporating radiant heating and flush lighting.

Douglas and J. D. Wood, F/F/A.R.I.B.A., F.R.I.C.S., A.M.T.P.I., of 1 Old Burlington Street, London, W.1, were the architects, and the contractors were J. Jarvis and Sons, Ltd., 239 Vauxhall Bridge Road, London, S.W.1.

Obituary

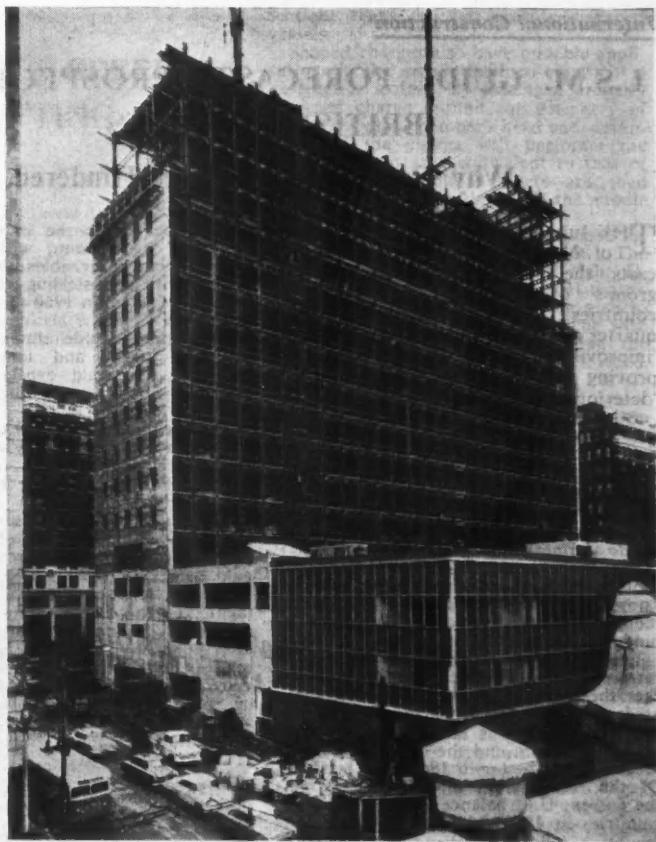
It is with regret that *The Contract Journal* records the death of the following:

Mr. Reginald John Newman Taylor, aged 74, vice-chairman of Braithwaite and Co. (Engineers), Ltd. He had been associated with the company for over 40 years, first as secretary then as director, joint managing director and latterly as vice-chairman. He was closely connected with the development of Braithwaite and Co. (India), Ltd., and with the company's many other overseas activities.

Dr. E. Hammond, B.Sc., Ph.D., A.R.I.C., M.Inst.F., technical manager of Lafarge Aluminous Cement Co., Ltd.

International Construction**COST SAVING****LATTICE GIRDERS IN
U.S. OFFICE BLOCK**

From a Correspondent



The office tower of the Washington Building

THE use of special type lattice girders made from split beams rewelded together so as to give large web openings and a method of ensuring composite action for both dead and live load between these beams and the concrete floor slabs are claimed to have resulted in a saving of \$200,000 (£71,500) in the construction of the \$10,000,000 (£3,570,000) Washington Building at Seattle, Wash., U.S.A. The new building consists of an office tower, which utilises this cost-saving system of construction, and a lower section of four floors in which prestressed concrete beams have been used.

Broad-flange, rolled beams with an initial height of 18in. were used for fabricating

the lightweight girders which each weighed about 2.2 tons and whose overall span of 56ft. 6in. was equivalent to the full width of the office block. The beams are spaced at 9ft. centres down the full 236ft. length of the office block. After flame-cutting the initial beams longitudinally down their webs in a tooth pattern the two halves were so joined together by welding as to form a new 27in. beam with hexagonal openings. A 6½in. x 1in. cover plate was then welded to the bottom flange of each beam and the seven hexagonal openings nearest to each end of the beam were stiffened, leaving the 10 centre openings unstiffened.

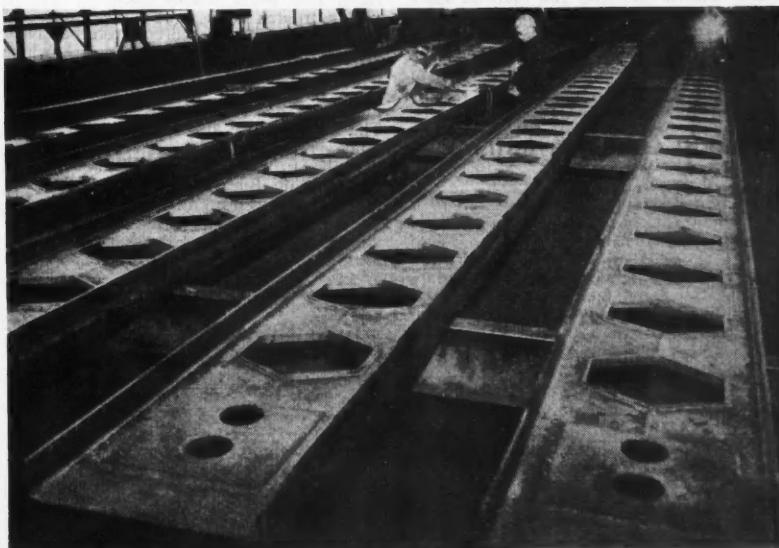
Weighing only about 7lb. per foot of girder compared with about 147lb. per foot for most beams employed in similar steel structures, these lattice type beams

made it possible for the floor-to-floor height of the storeys to be reduced, since all the service piping, etc., could be installed through the hexagonal openings. This distance is only 12ft., while the distance between floor and ceiling is 9ft., thus leaving 3ft. of space between a ceiling and the floor next above it. At each end, the girders are supported by 14in. broad-flange steel columns.

To prevent the beams from bending or sagging from heat in the event of a fire in the building, they were given fireproofing treatment by Berg Plastering, Inc., which involved lathing the beams and outlining the hexagonal holes. To cut the metal lath used for encasing the several thousand such openings in the beams, special cutting and folding jigs were used. Each piece of lath was cut to frame one-half of each of two holes, the adjoining pieces meeting above and below the centre of the openings. Lightweight gypsum plaster, machine applied, provided the fireproofing, except at the exposed steel beam ends, where sprayed-on asbestos was used. This material, it is claimed, would turn into a harmless wool-like substance in the event of it falling into the street below.

To carry the floor slabs on the street frontages, tapering spandrels have been welded to the main H-section columns and their ends bolted together at the site midway between the columns where they meet. These spandrels were also shop fabricated by diagonally cutting the webs of 16in. H-section beams down their lengths and welding together the resultant halves so as to form a tapering perimeter beam, 2ft. high at one end and 8in. high at the other. Thus making the profile of the new beam approximate to the bending moment curve resulted in a saving of a considerable amount of steel. It was also unnecessary to add stiffeners in the columns to take the stresses induced by the loaded floor slabs and it was also possible to run the pipes and ducts for air conditioning and other services within the space left between the columns.

Two sets of tapering spandrels were
(Concluded on page 500)



Open web girders being fabricated in the shop

International Construction**L.S.M. GUIDE FORECASTS PROSPECTS FOR BRITISH EXPORTS****Why Promotion has been Hindered**

THE July issue of the London School of Marketing Export Guide forecasts the prospects for 36 product groups of British exports to 34 countries. The outlook for the third quarter of 1961 is 'good' in 19 countries, 'improving' in 3, 'unchanged' in 4 (improving in 1 and deteriorating in 3), 'deteriorating' in 6 and 'bad' in 2.

Outlook for British exports since April has improved in France and the U.S.A. but has deteriorated in the Federation of Rhodesia and Nyasaland, New Zealand and Venezuela.

In arguing against devaluation of the pound as a boost to exports, the *Export Guide* (formerly the G.E.C. Export Guide) states that "inadequate marketing techniques, broken delivery dates, lack of knowledge of the market have been much more important deterrents than prices in hindering the promotion of exports."

Looking at the strength of sterling in retrospect and prospect, the Guide says that there are grounds for believing that, as far as the current balance with non-sterling countries is concerned, both the United Kingdom and the overseas sterling area will fare better in 1961 than in 1960. Of the total deterioration of £429m. in the current U.K. balance with non-sterling countries in 1960, £276m. was accounted for by a fall in merchandise exports to North America. Most of this was the result of the American recession.

The Guide believes that perhaps as much as one third of the £276m. decline in Britain's exports to the U.S. is due to long-term structural changes in the American market. This applies particularly to the car market, which is unlikely to be regained easily.

Rise in Stocks Halted?

The adverse trade balance of 1960 was caused more by a sharp rise in imports (16 per cent. up) than by sluggishness of exports (6 per cent. up); the Guide then goes on to comment on a quite extraordinary, and to some extent mysterious, rise in U.K. manufacturers' stocks which during 1960 was as high as £461m., compared with £56m. in 1959 and £49m. in 1958 (at 1954 prices).

This was the largest increase for any year since 1951, and it seems likely, therefore, that the long expected decline in stock-building will take effect during 1961. This means that even if industrial production does begin to rise in the second half of the year, with export earnings up by

even 5 per cent., the import bill down by 4 to 5 per cent., with virtually no improvement in invisibles, the U.K. current deficit with non-sterling countries could fall from £600m. in 1960 to around £350m. in 1961.

The L.S.M. Guide states that, looking at the current and long-term capital balances, we could expect a noticeable improvement in the strength of sterling by early 1962.

International Monetary Co-operation

The wave of uncertainty which followed the Dutch and German revaluations in March, 1961, was met by the Basle agreement between European central banks under which they have agreed to "stockpile" increased holdings of each other's currencies rather than convert them into gold or into a third currency. Although limited in scope and duration, this agreement together with Britain's increased drawing rights on the International Monetary Fund, can probably be relied upon to see Britain through until September, when it is expected that a further reform of the I.M.F. will provide additional security against "confidence" crises in the international currency markets.

Mexico

In an account of the outlook in Mexico, the L.S.M. Guide states that demand is high for imported plant and machinery to keep up the pace of expansion; imports of consumer goods, however, are held down—currently to about one-fifth of total imports—to protect Mexican industry.

Because of Mexico's current account position, industrialised countries will have to lend to Mexico if they also wish to sell. This applies both to short-term trade credits, where Mexico finds the U.K. credit facilities "a little bit tight" for its needs, and to longer term loans.

Three major development projects—in electric power, steel and petro-chemicals—will set the pace of Mexico's expansion in the next few years. There is a 10 per cent. annual increase in the demand for electric power, and to meet it capacity is being increased to 5.1 million kW by the end of 1964. Since estimated foreign exchange requirements for 1962-64 average \$118m. a year, it is clearly recognised that foreign equipment will have to be imported on a large scale.

British capital goods exporters have already shown that they can increase sales in the competitive Mexican market. The limit to further gains in this field seems likely to be Mexico's total capacity to import.

£3M. SPENT ON PUBLIC WORKS

During 1960, the Nyasaland Government spent more than £3m. on public works, a rise of more than 20 per cent. on 1959's figure of just over £24m. Building and engineering contracts took more than a third of the total—£1.1m.—some £440,000 more than in 1959.

In the course of the year, the Dedza Secondary School—which cost £106,500—was completed as was the £97,650 medical store and maternity block at the Queen Elizabeth Hospital, Blantyre. Other works carried out by direct labour included schools, police stations and hospitals.

Major engineering contracts covered work on the new £325,000 gravel road between Dedza and Linthipe, and the 15-mile stretch of road between Chileka and Matope which will cost £260,000 when finished.

The Public Works Department also constructed a 14-mile circuit road at Salima.

KARACHI CIRCULAR RAILWAY PROJECT

Gammon Pakistan, Ltd., a member of the Gammon Group of Companies, have been awarded the contract for the civil engineering work in connection with the above project which has been designed to improve transport facilities in the areas surrounding Karachi due to the industrial and commercial expansion in Pakistan.

The railway will run round the outskirts of Karachi and will be about 19 miles long.

The contract covers the construction of three rail bridges, three road bridges and 10 foot bridges. All the bridges will be constructed either in normal reinforced concrete or prestressed concrete.

The work is being carried out for the Railway Department of the Pakistan Government, and the value of the contract is about £400,000. The scheduled date for completion is September 1962.

(Concluded from page 499)
welded to each section of main columns in the shops, the distance between them representing the distance between the floors. The column sections were then transported to the site and welded end to end to give the appearance of a continuous column in the finished structure.

So that the lightweight, lattice type girders and the concrete floor slabs could act as a single structural unit, reinforcing bars were welded to the top of each beam and these extend into the floor slab. In this way, the floor slab acts as a diaphragm, transmitting lateral forces to the concrete shear walls at the ends of the building and at the centre core, which is 72ft. x 33ft. in superficial area and stands out 10ft. from the face of the office tower, extending 23ft. into the building to a central corridor. This location was dictated by the inclusion of a 350-car garage in the four-storey reinforced concrete substructure of the building.

So that the floor slabs when poured could gain strength for composite action with the beams, shoring of the beams had to be resorted to at a number of levels. This was effected at midspan by 10in. x 10in. timbers jacked up by 50-ton jacks, giving a 1in. camber to the floor slab casting.

For the substructure, which consists of three garage storeys and the lowest of the office storeys, prestressed, 56ft. 6in. long, 2ft. 6in. high and 10in. to 12in. wide beams were generally used, the heaviest weighing 10½ tons compared with 2.2 tons for the lightweight open-web steel beams used for the office block. These were precast using the poured-in-place floor slab as a tee.

Erection of the steelwork was carried out at a rate of one storey every three or four days, and, for this work, two guy derricks were used, each fitted with a 110ft. high mast and a 98ft. 6in. boom. Because the lightweight beams used in the office tower were unequal to the task of carrying both these cranes, temporary staging consisting of 36in. 128lb. broad-flange beams was bolted to the vertical columns.

To construct the external end walls and those of the central core, slip forms were used for the placing of the concrete. These enabled pouring to be carried out at a rate of about 12ft. of wall per day of 24 hours. It also eliminated the need for any conventional shuttering. The slip forms were raised by hydraulic jacks at a rate of 6½in. per hour, resulting in a lift of about 3ft. every six hours. Three to five storeys of concreting was done at a time, usually within about six weeks of the erection of the steel. The concrete was transported from a hopper and poured into the walls from a platform attached to the climbing shuttering. The walls of the office block are faced with white marble slabs.

Constructed as a continuous ramp, the garage in the reinforced concrete basement has an approach and exit which nowhere exceeds 1 : 4 and users of the garage park their cars at an angle of 53 deg. to make the best use of the space available. The substructure also includes a new post office.

Built to a 41ft. module, the new Washington Building was designed and planned by Naramore, Bain, Brady and Johanson, architects and engineers, of Seattle, Washington, U.S.A., to whom the writer is indebted for material for this article and for photographs.

DECLINE IN HOUSE-BUILDING

Official figures show a decline in house-building in Australia earlier this year. The building work force fell from nearly 139,000 in mid-December to just over 124,000 at the end of March. There was a decrease of 900 in the number of building contractors and of 3,000 in the number of sub-contractors.

The worst affected among the tradesmen were bricklayers, whose employment fell from 50,600 to just over 36,000 during the three months.

International Construction**SHAPED EXPLOSIVE CHARGES SPEED DEMOLITION METAL CUTTING**

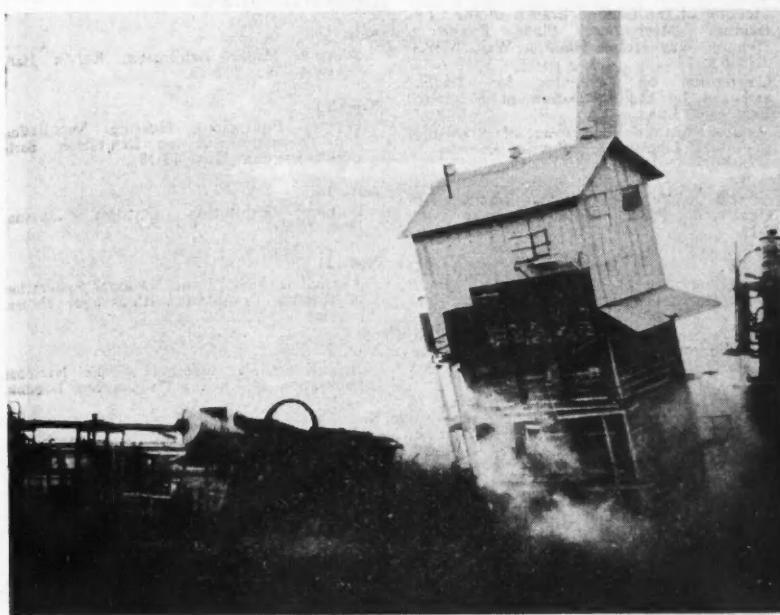
From a Correspondent

SIX linear shaped explosive charges, weighing less than one pound each, recently sped demolition of a large cracking unit at the American Refinery in Woodriver, Ill.

In a matter of minutes, the 70ft. Holmes-Manley thermal cracking-still and the 80ft.

cal Division (Edwardsville, Ill.), to fit against the steel H-beams supporting the structures. As a result, sharp cutting forces and deep penetration were achieved with relatively little explosive.

Shaped explosive charges, developed originally during World War II for piercing armour plate, are finding widespread use



Demolition of 70ft. cracking still and 80ft. connecting bubble tower

connecting bubble tower were blasted to the ground. Workmen, no longer faced with hazardous high-level work, were then able to dismantle the unit quickly and in complete safety.

The charges were specially prepared by Chromalloy Corporation's Propellor Chemi-

today in American industrial demolition and metal cutting. Each application requires individual engineering. For example, steel piles are removed most efficiently with non-planar, linear shapes. On the other hand, contoured explosives are most efficient on the curved surfaces of large pipe

sections, tanks, or other irregularly shaped vessels.

Shaped charges also have possible applications in the missile field, to carry out a destruction order. By placing a properly designed charge around the periphery of the combustion chamber's head end, detonation of the charge will perforate the chamber in an area equivalent to that of the nozzle. Reaction effects are then identical in both directions, and the missile will fall like a neutral body.

Linear shaped charges were selected for the American Refinery demolition. The thermal still was supported on eight H-beams, the bubble tower on four H-beams. Before the blast, steel supporting stanchions at the front were partially cut with welding torches, and bolts holding the stanchions at the rear were severed. Charges were then placed against the six front beams, near the ground, and detonated. By bringing the unit down into an easily accessible areaway, remaining demolition was considerably simplified.

TRADING OPPORTUNITIES IN WEST GERMANY

The second report prepared by the Export Council for Europe on trading opportunities for British firms has now been published. Market openings in nine countries in Western Europe were described in the Council's first report published in May. This second report, because of the importance of its subject at the present time, is devoted wholly to West Germany.

In a message from the chairman, with which the report is introduced, Sir William McFadzean writes: "West Germany is a tremendously exciting and challenging market, particularly in the breadth of opportunity and the encouragement given to imports." Industry is booming, demanding more and more plant and mechanisation and causing gaps which British firms might fill.

The German market is wide open to British exporters in a wide range of products. British exports to West Germany have trebled since 1955 and doubled since 1958 and, including re-exports, are now running at the rate of about £190 millions per annum. This still represents less than 5 per cent. of Germany's present imports.

Sir William adds: "Our Mission has no hesitation in saying that these figures could and should be substantially increased."

Copies of the report, price 5s., are available from The Export Council for Europe, 21 Tothill Street, London, S.W.1.

£700,000 OFFICE BLOCK COMPLETED IN NIGERIA

A £700,000 headquarters building for the Niger Delta region activities of the Shell-B.P. Petroleum Development Co. of Nigeria Ltd., was recently officially opened by Alhaji Sir Abubakar Tafawa Balewa, the Prime Minister of Nigeria, at Umuobiakanji, near Port Harcourt.

The H-shaped building, three storeyed

and with a main framework of reinforced concrete columns and beams, has two main blocks, each 445ft. long, connected by a linking block spanning the 166ft. between them.

Architects were N.V. de Bataafse Petroleum, Maatschappij, and the quantity surveyors, were Widnell and Trollope. The

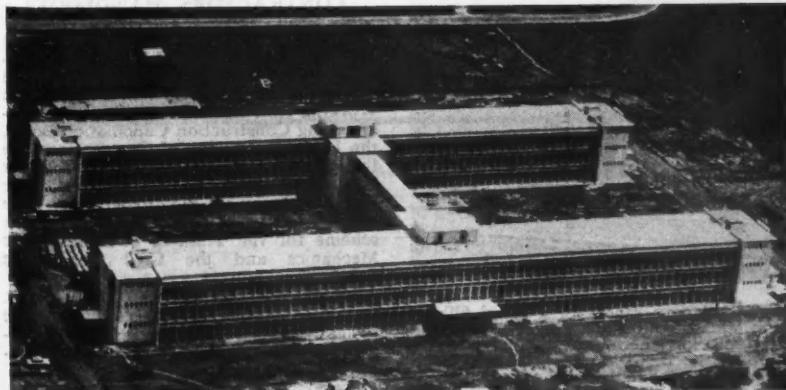
contractors were Taylor Woodrow (Nigeria), Ltd., who completed the building in 19 months despite an exceptionally bad rainy season.

The photograph shows an aerial view. Concrete canopies are cantilevered out above the six entrances. The building, fully air-conditioned throughout, served by four automatic lifts and with a comprehensive intercommunication system, includes 70,000 sq. ft. of office space, and half a mile of corridors. There is a parking area for 350 cars and 700 bicycles.

INDIAN HIGHWAY DEVELOPMENT

The International Development Association, an affiliate of the World Bank, has extended a development credit of \$60m. to India for highway development. The funds will be used mainly for the construction of about 660 miles of highways, including 19 major bridges, which will open up some of the less developed parts of India, improve connections between agricultural and industrial centres, and relieve traffic around the two principal cities and ports, Calcutta and Bombay.

This credit forms part of the funds which will be provided by IDA towards the third five-year plan, and is for a term of 50 years, interest free. It is repayable in foreign exchange, amortisation to begin after a 10-year period of grace.



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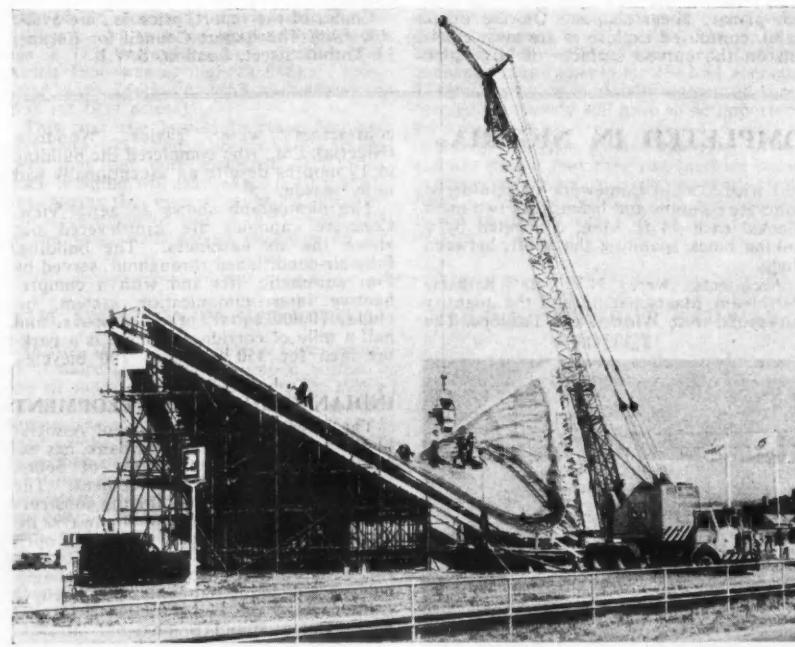
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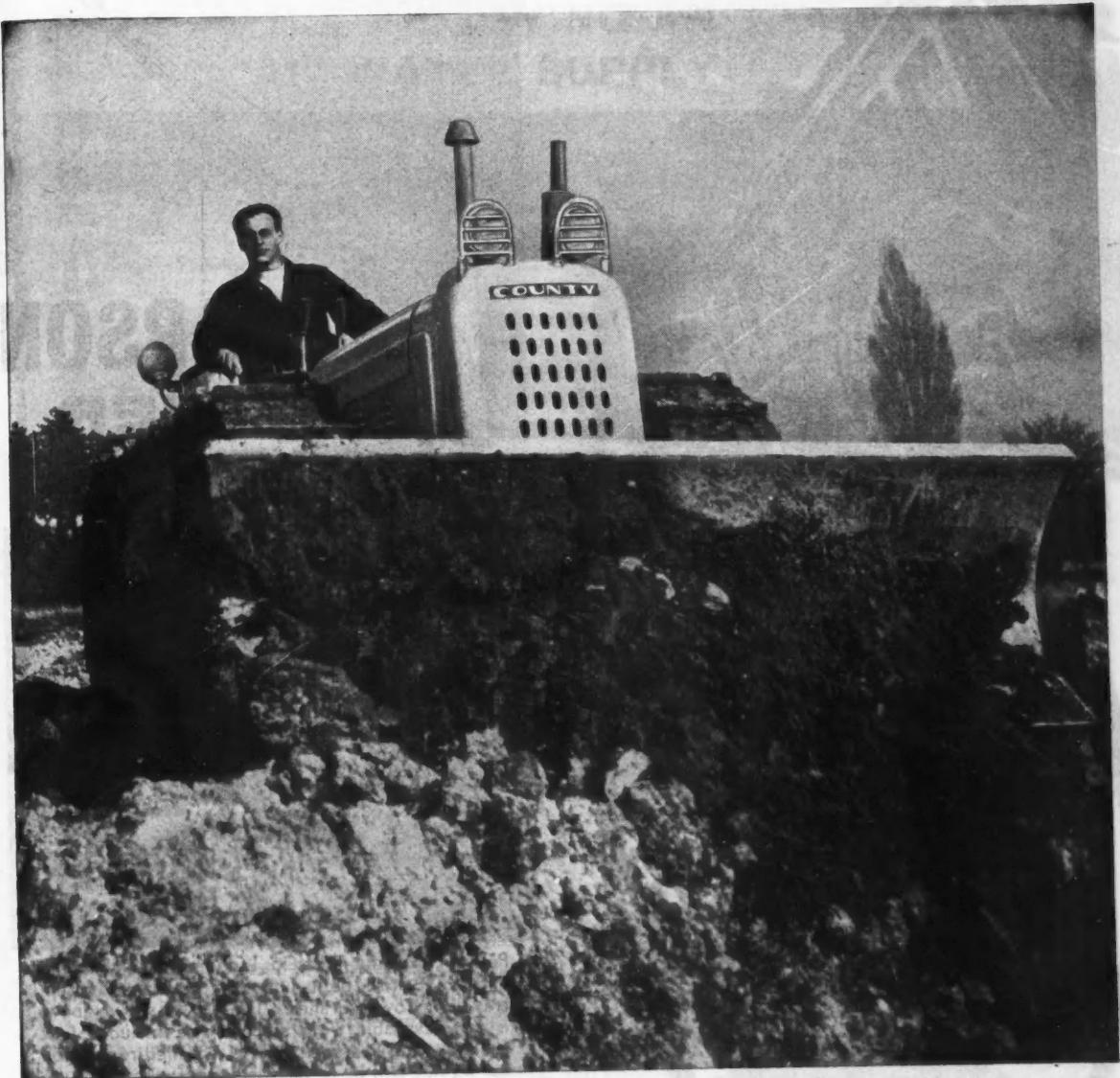


Construction of the hyperbolic paraboloid reinforced concrete canopy of a petrol filling station now being erected on the Retford By-pass at Markham Moor for A. H. Turner, Ltd. An NCK-Rapier 205 truck-mounted crane is seen distributing concrete over the roof. The contractors are Charles R. Price, the architects being D. Clarke Hall, H. S. Scorer and R. Wright, F/A.R.I.B.A. The consulting engineer is Dr. K. Hajnal-Konyi, M.I.C.E.

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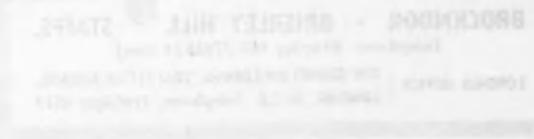
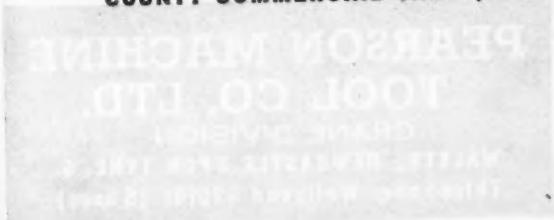
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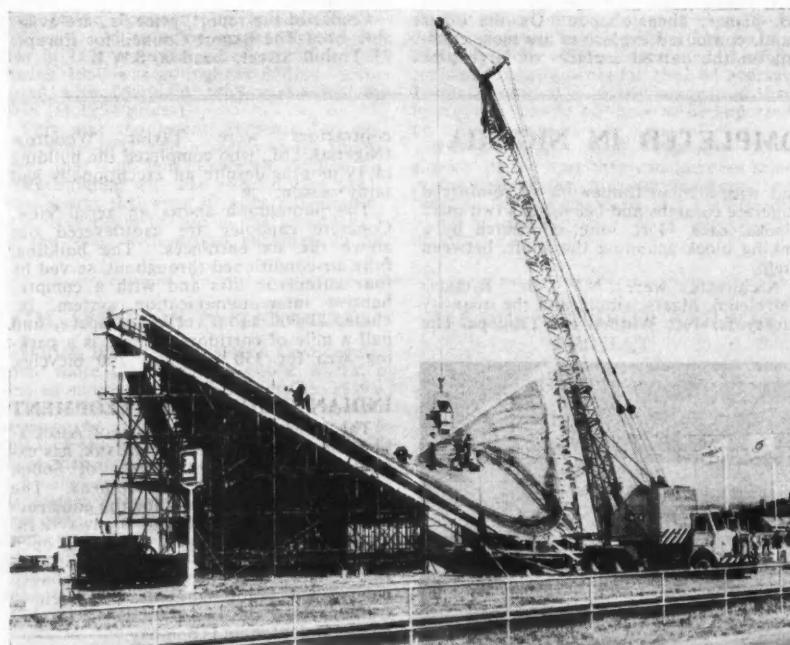
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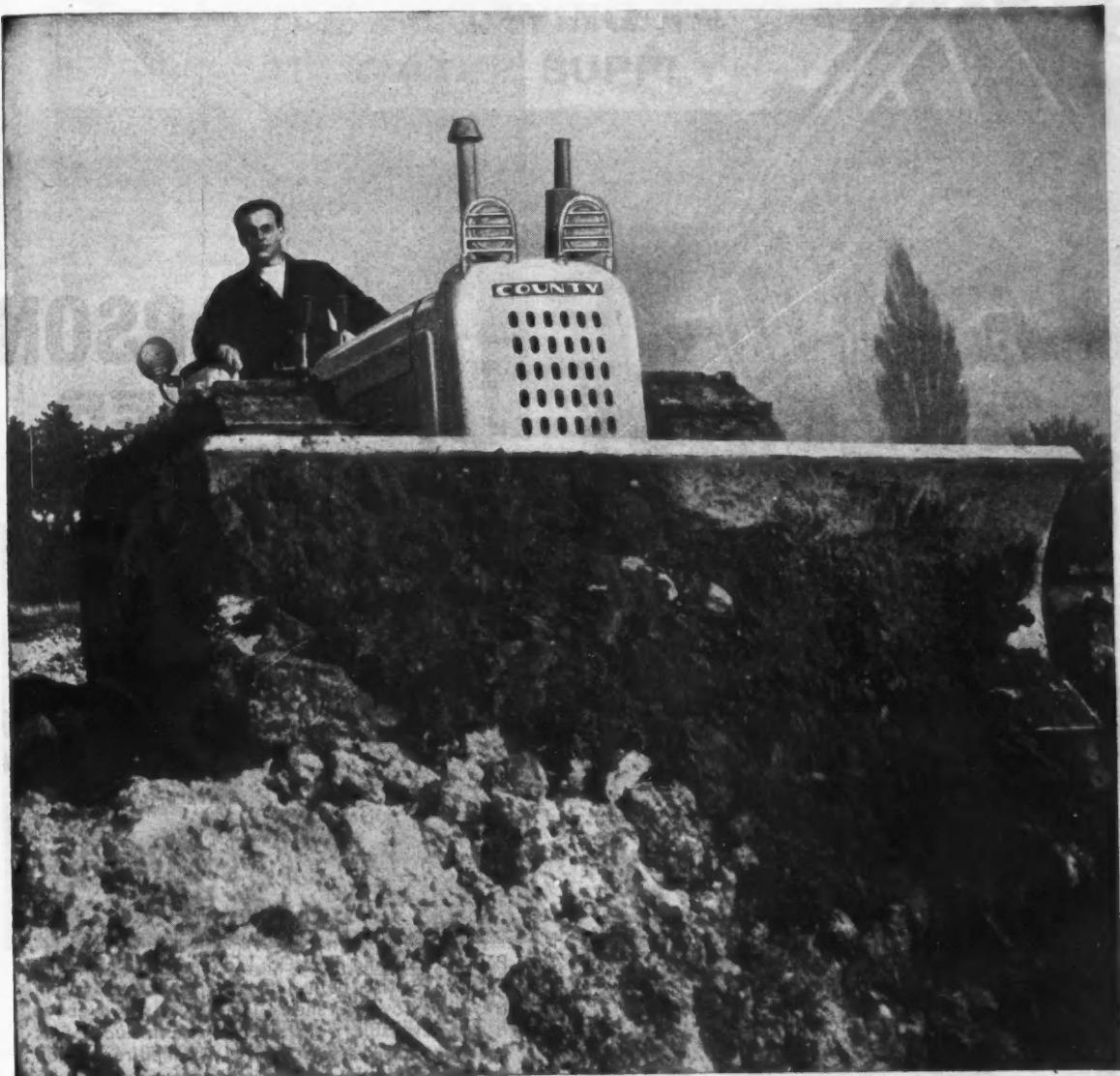


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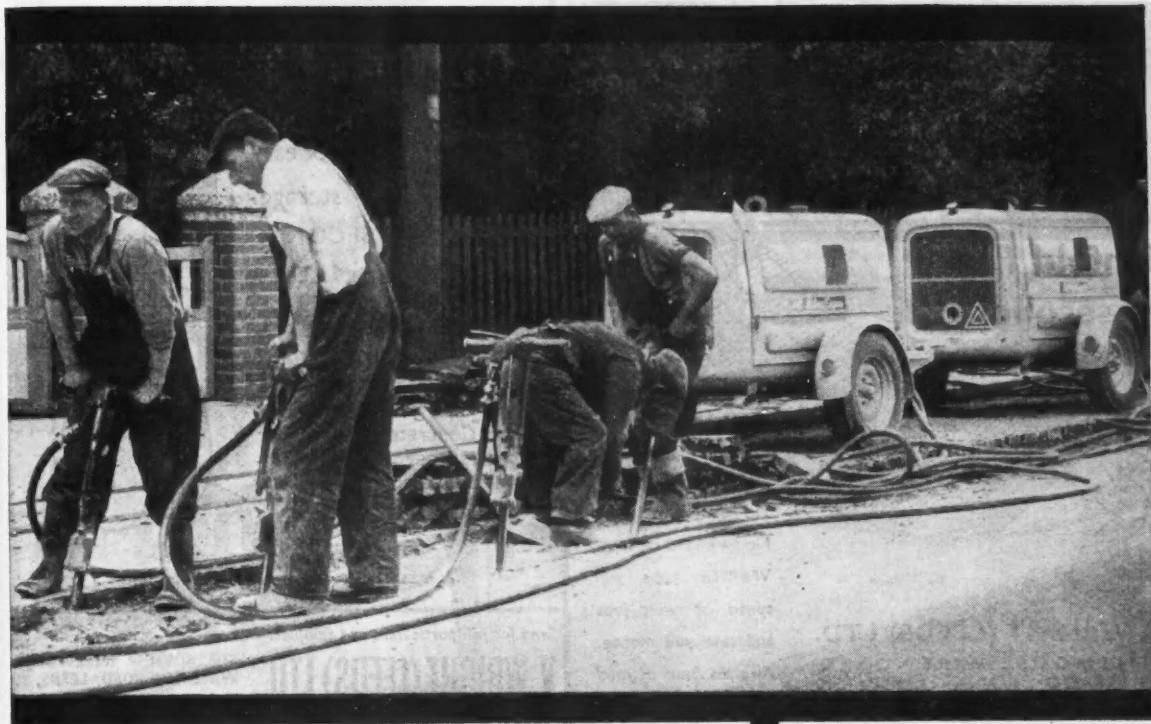
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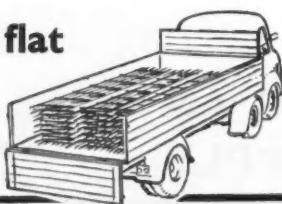


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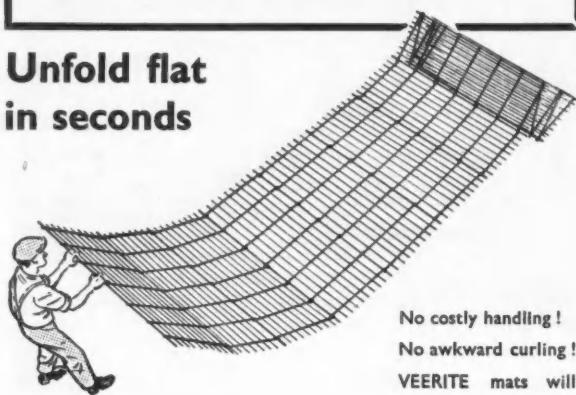


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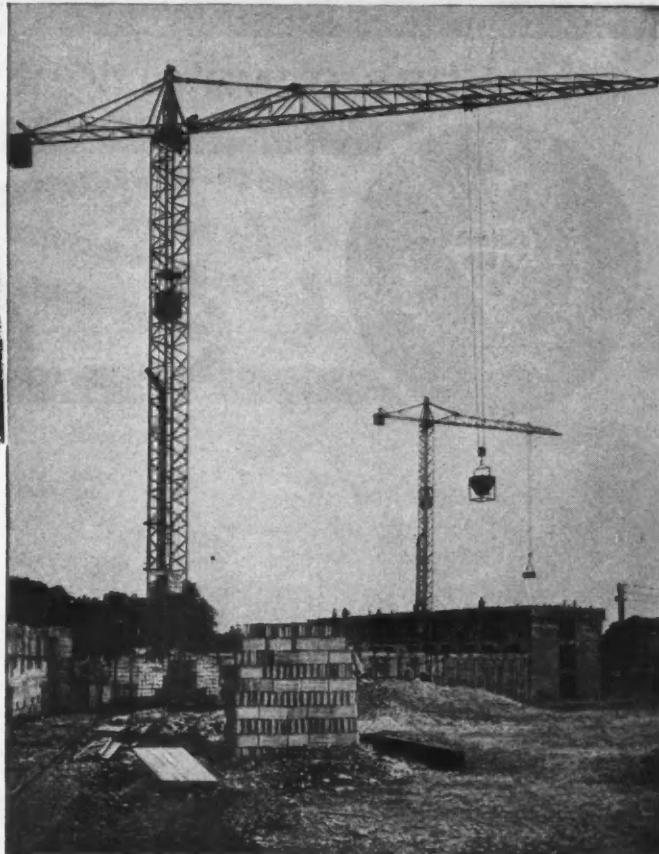
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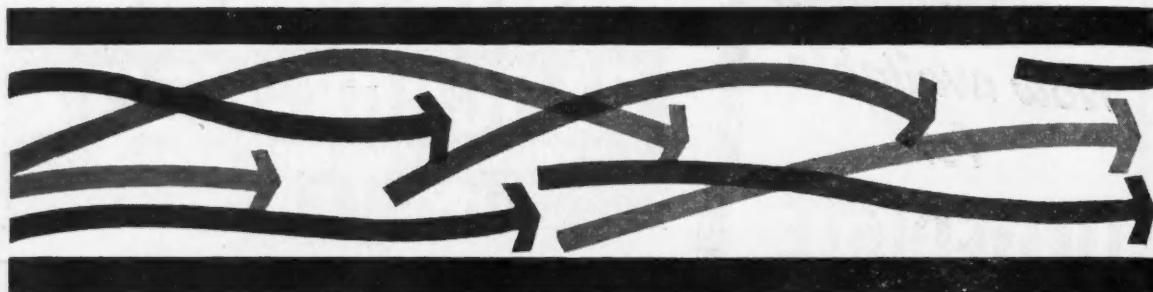
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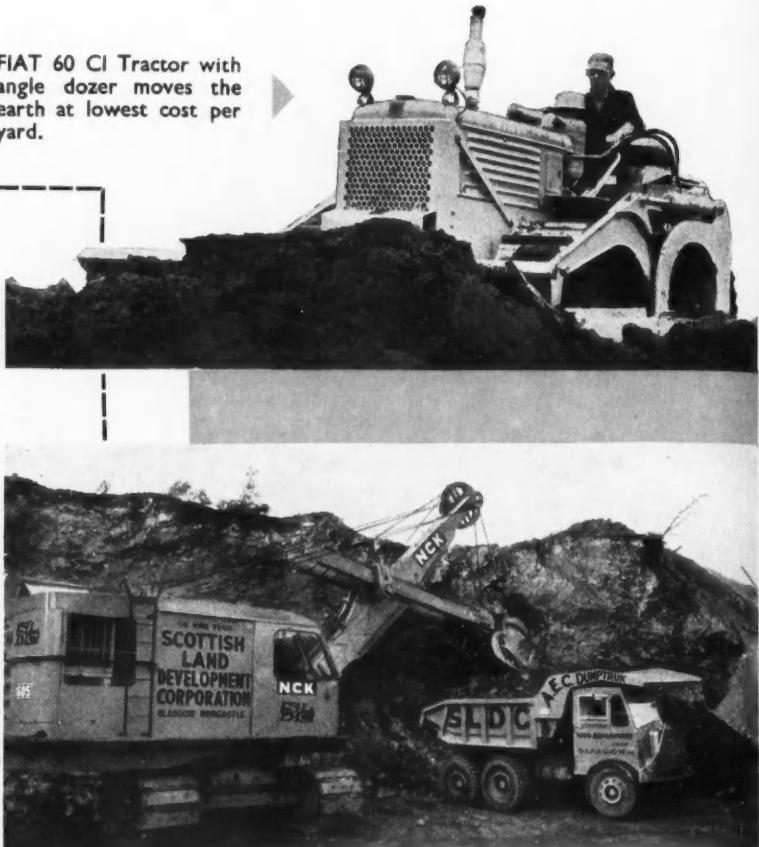
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(Continued from page 412)

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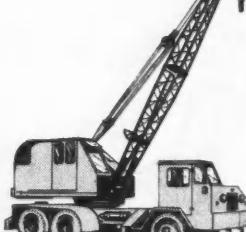
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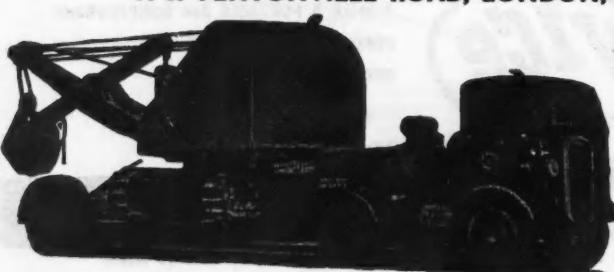
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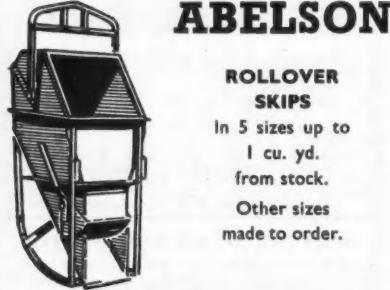
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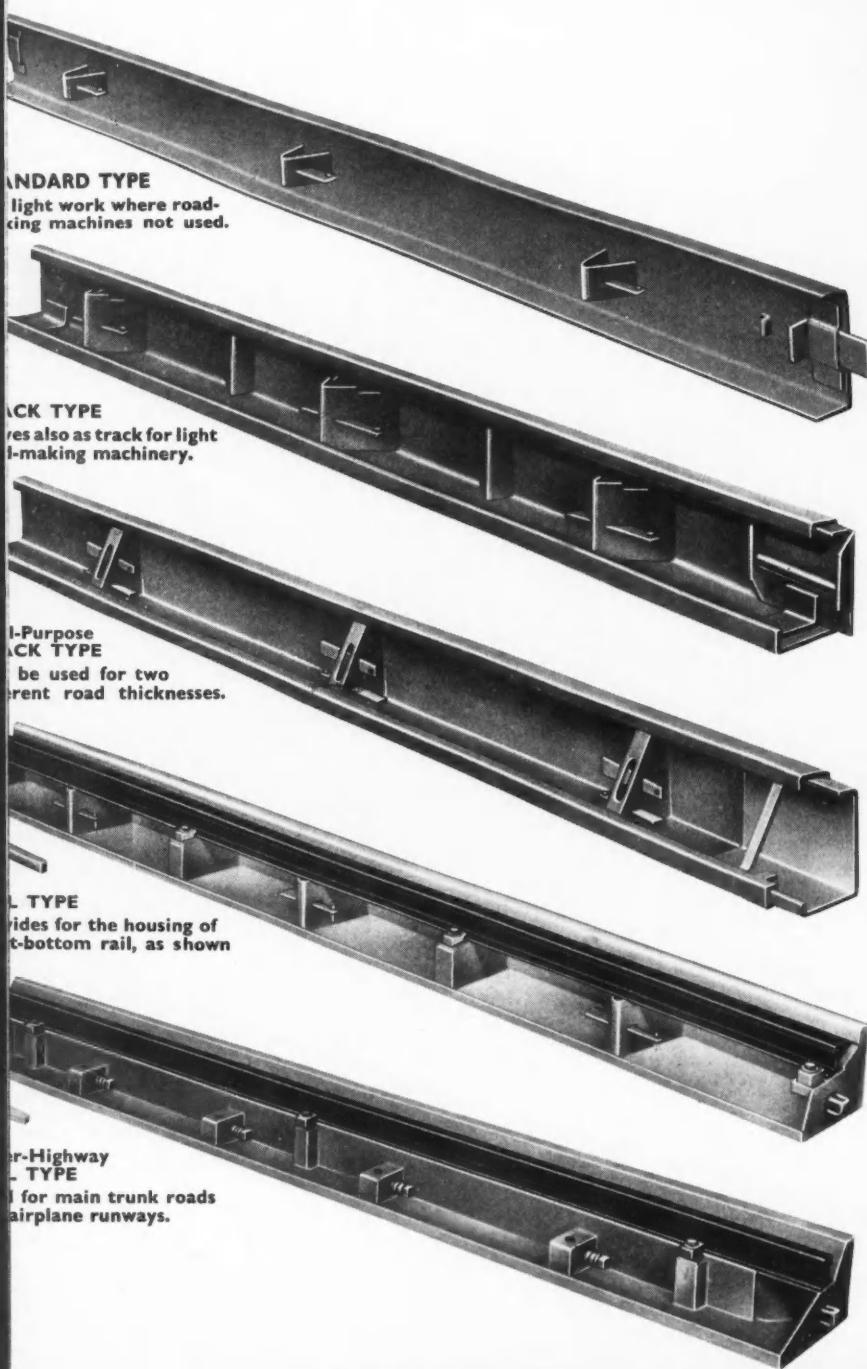
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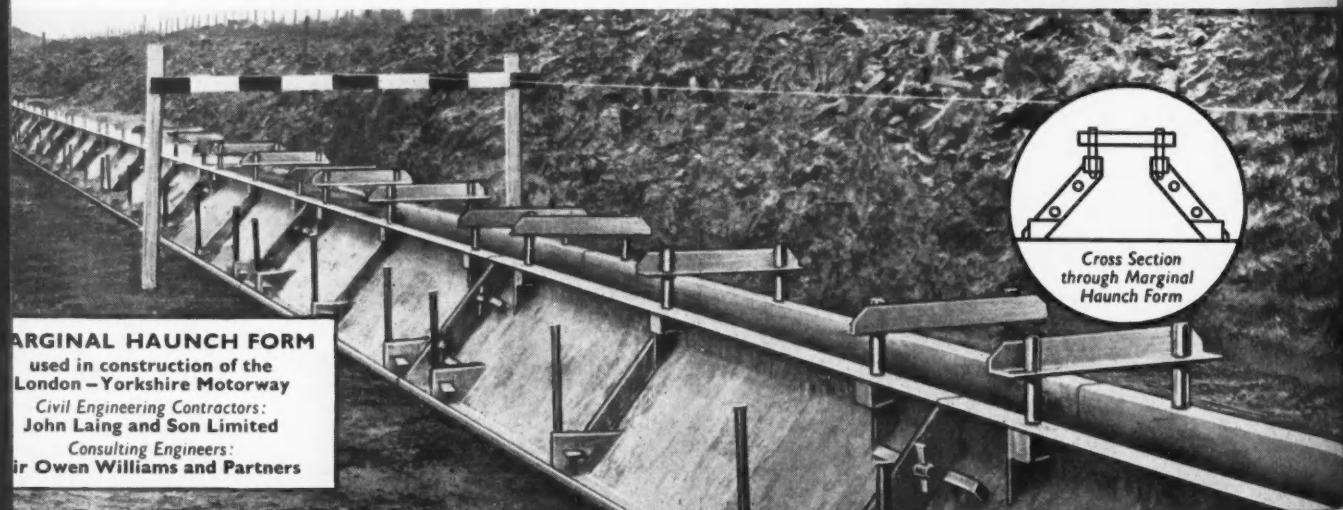
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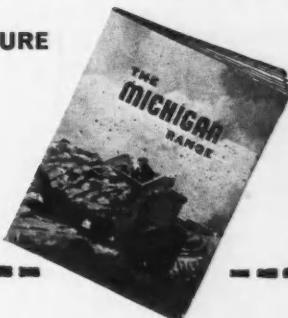
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Arrived on site, jibs erected, two beams lifted onto railway bogies and winched on to temporary Bailey Bridge. One crane travelled 4 miles to West side of bridge and took up position for first lift.

Sunday

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Monday

Third and fourth beams placed on Bailey Bridge and subsequently positioned. Bailey Bridge re-positioned by cranes. One crane travelled to East side of bridge to help position two beams on bogies, travelled back to West side and assisted in positioning fifth beam.

Tuesday

Sixth beam positioned. One crane travelled to West side to help place seventh and eighth beams onto bogies, and subsequently to position them. Ninth beam placed on bogies.

Wednesday

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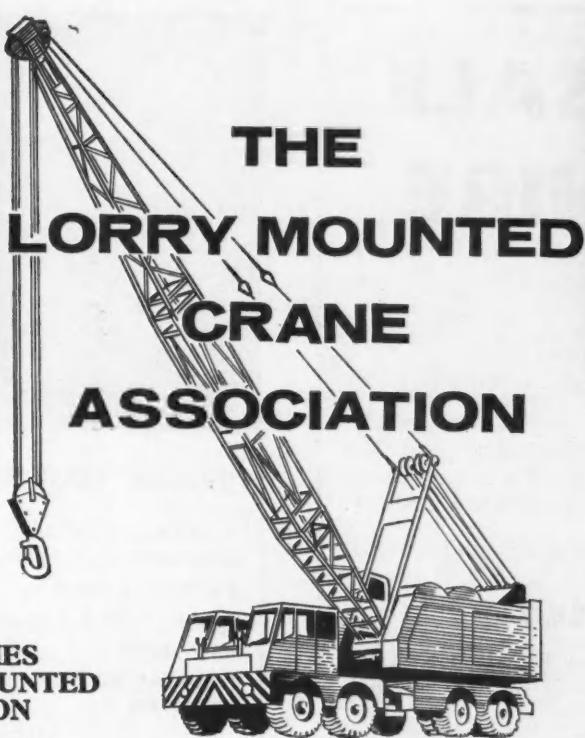
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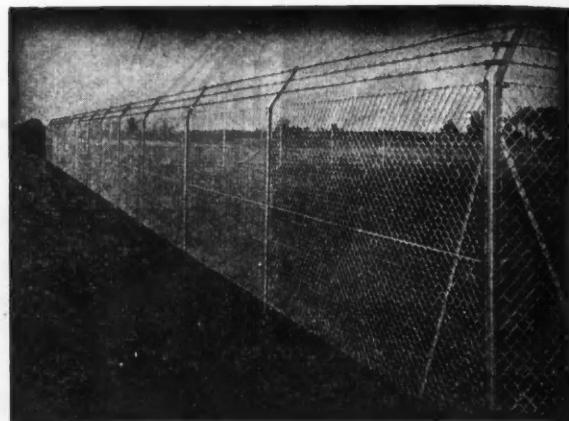
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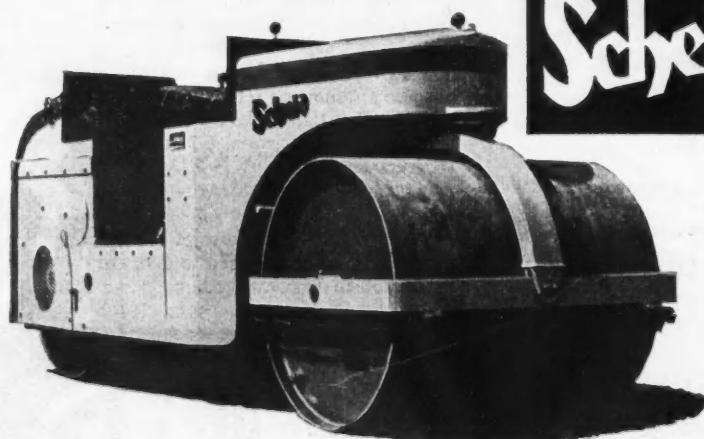
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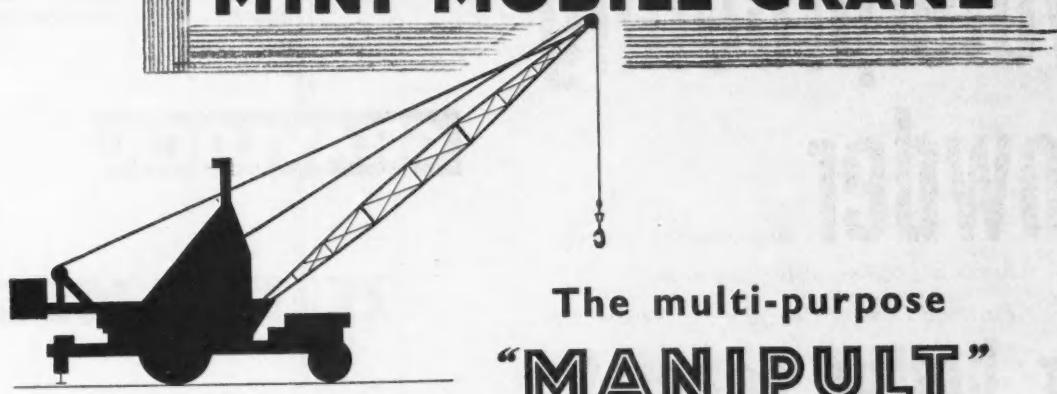
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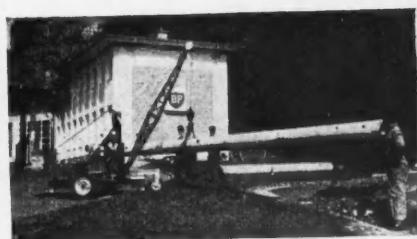
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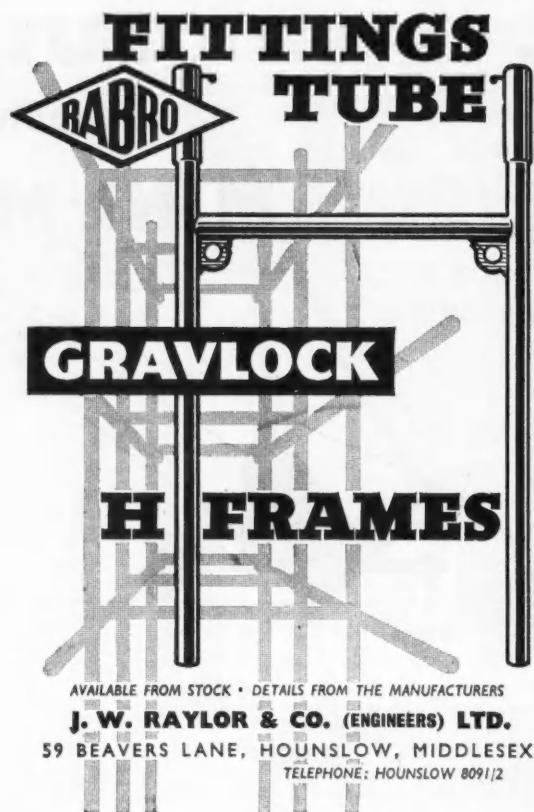
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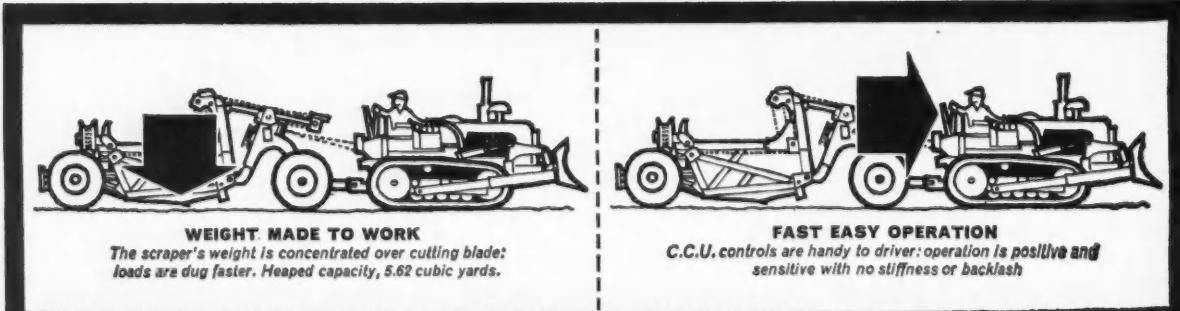
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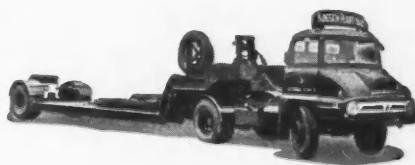
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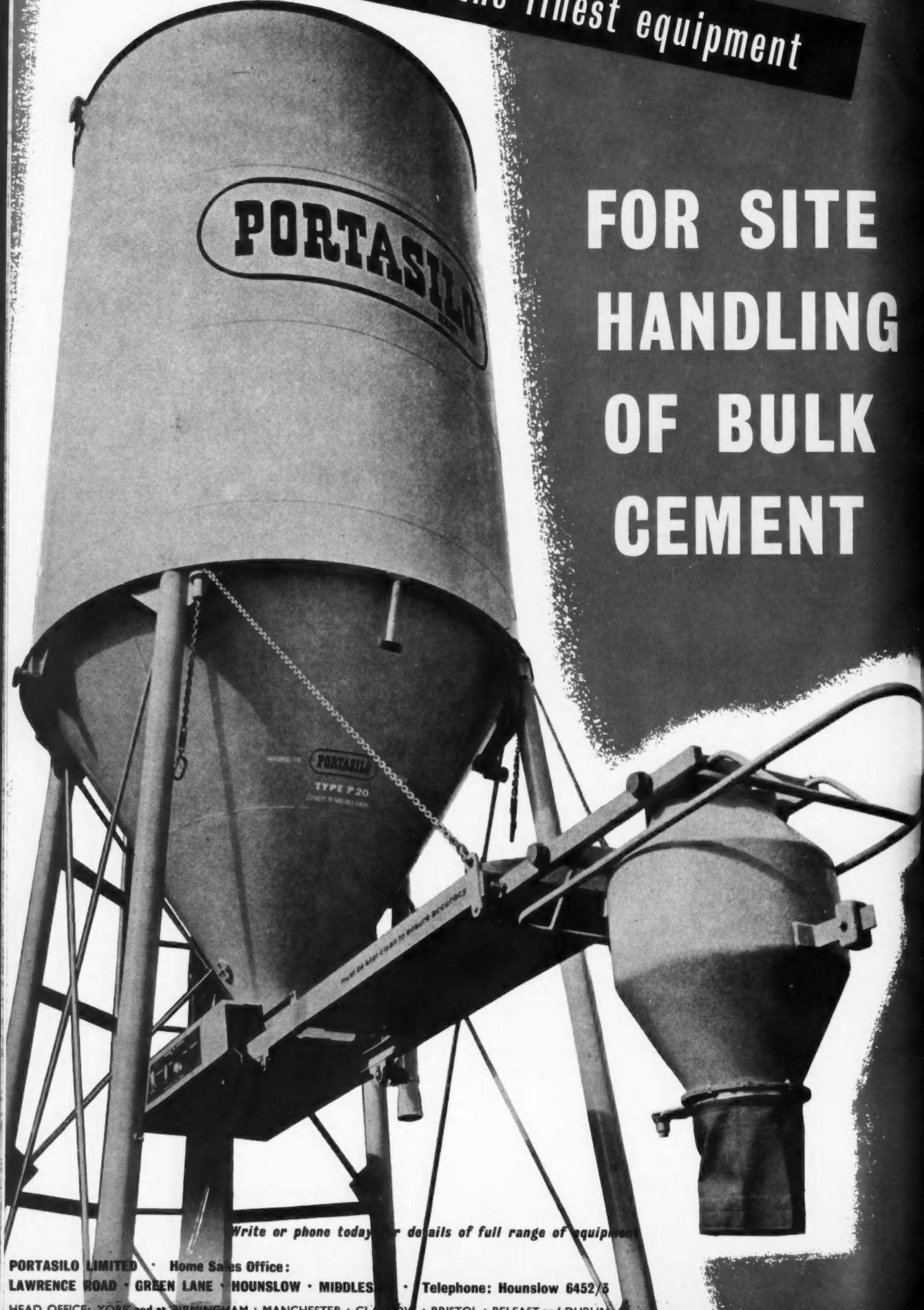
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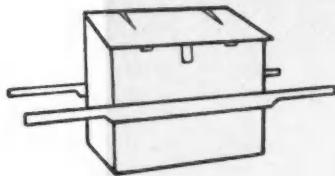
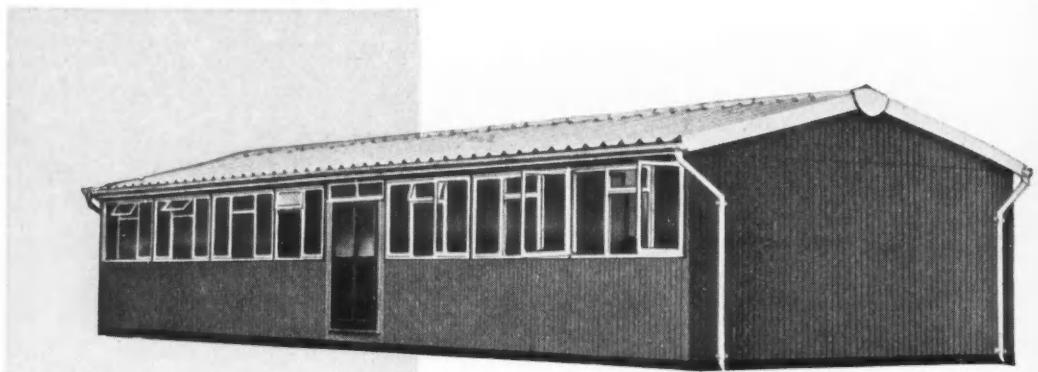


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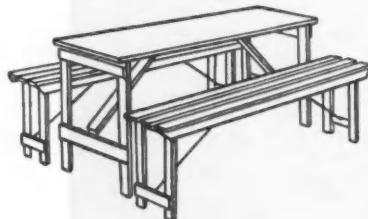
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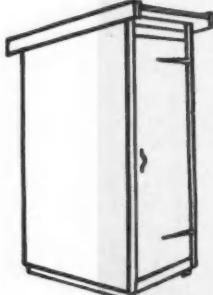


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WINDLETON HENRY, LTD., Pit Farm, Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Pits at: Leighton Buzzard, Bedford. Building sands.

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NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)
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CONTRACTORS'

GUIDE TO AGGREGATES

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HALL AND CO., LTD., Baltic Wharf, Marine Parade, Southampton. (Tel.: Southampton 21234), and at Portsmouth. Pits at Ringwood, Highbridge and Fawley. Gravel aggregate, concreting, plastering and building sand.

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HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottinghamshire. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)
MOREYS (VERWOOD), LTD., Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggin, path gravel.

NEW MILTON SAND AND BALLAST CO., LTD., Lymington Road, New Milton, Hants. (Tel.: 31 and 566.) Guarantee washed, washed, screened and graded concrete aggregates. All sizes. Washed sharp and fine sand.

PRIVETT, W. G. AND SONS, LTD., Drayton Lane, Portsmouth. (Tel.: Cosham 70059.) Concrete aggregates, building sand, hoggin, ashes, washed and graded litter, sand, etc.

ALPH OF BASINGSTOKE, LTD., 37 Kemphcott Lane, Basingstoke, Hants. (Tel. 85.) Concrete aggregates, building sand, path gravel, hoggin, etc.

TWICKENHAM GRAVEL CO., LTD., Ship Lane, Farnborough (Tel. 1126). Sandhurst Road, Yateley (Tel. 2230).

HEREFORDSHIRE

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) Suppliers of all grades of crushed concrete aggregates, road metalling, pitching stone, hardcore and coated macadam.

ELLELL STONE TRANSPORT AND ROLLING CO., LTD., Ludlow, Salop (Cleehillstone 284). (See Shrops.)

OVERHINCHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) All stones, tarmac, lime, tarmacadam, roadstone, chippings and concrete aggregates, etc.

OLD RADNOR TRADING CO., LTD., Kington (Tel. 421.) Granite and limestone aggregates, coated macadam, concrete products.

SALOP SAND AND GRAVEL SUPPLY CO., LTD., Admaston, Wellington (Tel. 961). Salop.

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. Concrete aggregates, roadstone and Dolomitic lime.

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel. 3158/9.) (See Gloucestershire.)

HERTFORDSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: V/Giant 2530.) (For details, see Leics.)
DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, London, N.W.3. (Tel.: HAMPstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)
EASTWOODS SALES, LTD., Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Broxbourne pit. (Tel.: Hoddesdon 2456.) Producers and distributors of all grades of washed aggregates.

GABRIEL, C., LTD., Palmers Lane, Enfield, Middlesex. (Tel.: Howard 451/2/3.) Washed aggregate and building sand. Pit at Heron and Newfield.

HALL AND CO., LTD., Railway Yard, Orchid Road, Stevenage. (Tel. 775), and at Hatfield. Gravel aggregates, concreting, plastering and building sand.

HARTIGAN, G. F. X., LTD. (See Buckinghamshire.)
ST. ALBANS SAND AND GRAVEL CO., LTD., London Colney, St. Albans, Herts. (Tel.: Bowmansgreen 2226.) Pits at Smallford Lane, Smallford, and Buntingford Lane, Watford, Marsh Road, Stanstead Abbotts.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)

WILCKENHAM GRAVEL CO., LTD., Eleanor Cross Road, Northgate, Cambs. (Tel. 3388.)

WEBB, G., CAMBRIDGE, 35 Magrath Ave, Cambridge. (Tel. 59966, 53969, 50353 (night).) (See Camb.)
WINFIELD HENRY, LTD., Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Pits at Hemel Hempstead, Watford, West Hyde, Rickmansworth. Concrete aggregates, hoggin, building sand.

HUNTINGDONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: V/Giant 2530.) (For details, see Leics.)
FERRELLS AND AGGREGATES LTD., 26 Northgate Road, Quarries, Redbourn, Herts. (Tel.: 384/5.)
GRAVEL PRODUCTS (HUNTS.), LTD., Little Paxton, St. Neots, Hunts. (Tel.: St. Neots 308.) Pits at Little Paxton, St. Neots, Hunts.; and Blunham, Beds.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

NEENE BARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough (Tel. 5534/5), and Ship End Quarries, Winsford, near Peterborough (Tel.: Winsford 384/5). Roadstone, hardcore, broken stone, ballast, ashes, gravel and sand.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) Producers of all grades of washed sand and gravel. Ready mixed concrete. Precast concrete of every description.

WEBB, G., CAMBRIDGE, 35 Magrath Ave, Cambridge. (Tel. 59966, 53969, 50353 (night).) (See Camb.)

KENT

BRASSTED SAND PITS, Brassteds, Kent. (Tel. 586.) London Office: 10A Eller Street, S.E.15. (Tel.: New Cross 3337.) Soft and plastering sands, lime mortar, sand-mix dry, hardcore, S.H. bricks, ashes, etc.

BROWN BROS. (SITTINGBOURNE) LTD., Chalkwell Road, Sittingbourne, Kent. (Tel.: Sittingbourne 330.) Sand, ballast, shingle, hoggin, hardcore, clinker, chalk, etc.

CLUBB & LTD., Dartford, Kent. (Tel.: Dartford 2543.) Pits in North Kent, Medway area and Sevenoaks district. All washed and crushed gravel aggregates, concreting and building sand.

DIAMOND TRADING CO., LTD., 10A TD., Ditton Court Quarry, Larkfield, near Maidstone. (Tel.: West Malling 3444.) Quarry owners, tarmacadam, bituminous macadam and dry road stone manufacturers and suppliers. Head Office: 21-23 Old Bond Street, London, E.C.4. (Tel. City 7001—10 lines.)

DIAMOND TRADE CO., LTD., Swan Lane Quarries, Little Chart, Ashford, Kent. Quarry owners: tarmacadam, bituminous macadam and dry roadstone suppliers. All inquiries to Area Office: Ditton Court Quarry, Larkfield, near Maidstone, Kent. (Tel.: West Malling 3444.)

HALL AND CO., LTD., Canning Street, Maidstone. (Tel.: Maidstone 51051) and at Folkestone and Hayes. Pits at Lunsford, near Larkfield, Riverhead. Gravel aggregates, concreting, plastering and building sand. Surecrete precision-mixed concrete.

HARVEY, M., AND CO., LTD., Station Road, Paddock Wood, Kent. (Tel. 385.) (See Merton.)

TILBURY CONTRACTING AND DREDGING CO., LTD., Postle, Maidstone. (Tel.: Maidstone 55401/2/3.) Suppliers of tarred, bituminous and dry Kentish ragstone, sand, wailing, asphalt fillers, Scotch granite and kerbling.

LANCASHIRE

BROOMBYNS, LTD., Sandhole, Milnthorpe. (Tel. 3251/2.) Westmorland. (See Westmorland.)

BUCKTON QUARRY, Broken stone, all grades. (Tel.: Mossley 123.) Or write Main Road, Oldham.

CASTLETON SAND AND GRAVEL QUARRIES, LTD., Traws Lane, Castleton, near Rochdale. (Tel.: Castleton 57100.) Lee Quarries, Bacup. (Tel.: Bacup 2800.) Washed pit sand, crushed washed stone aggregates; pitching, etc.

CROXDEN GRAVEL, LTD., Chaddie, Stoke-on-Trent. Staffs. (Tel.: Tean 393.) Manchester Office: Blackfriars 3766/7. Plant capacity, 2,000 tons per hour.

DUNNING AND SON, LTD. (See Shropshire.)

HARTLEY, JOHN W., LTD., Lundfish Quarry, Carnforth, Lancs. (Tel.: Carnforth 100.) Large producers of highest quality washed sands, clean washed natural pebbles and crushed gravel aggregates, sand, tarmacadam, etc.

HILTON GRAVEL LTD., Rice Street, Liverpool Road, Manchester, 3. (Tel.: Denzgate 5455 and 5456.) Quarries at Chaddie, Staffs. (Tel.: Tean 241.) And at Longton, Stoke-on-Trent. (Tel.: Longton 32196.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottinghamshire. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

HULLAND GRAVEL CO., LTD., Chaddie, Stoke-on-Trent. (Tel.: Chaddie 2323/4, 2119 and 2195.) Manchester Office: 460 Wilbraham Road, Chorlton, Manchester. (Tel.: Chorlton 2274/5.)

KELMAC, LTD., 59 Donaldson Road, Princes Risborough, (Tel.: Preston 84689/9.) Bituminous, tarred and waterbound macadams. Dry roadstone, sized and graded limestone aggregates. All to B.S. and M. of T. Specifications.

PENMAENNAWR AND WELSH GRANITE CO., LTD., all sizes and gradings of crushed granite aggregate. Intermediate, coarse, fine, sharp and rounded. Liverpool and Preston Depots: Office: 7 Picton Road, Liverpool, 15. (Tel.: Sefton Park 7261.) Manchester Depot: Office: Corporation Road, Manchester, 15. (Tel.: Telford Park 3830.)

TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hale 261/2/3.) (See Staffs, for details.)

TRENTHAM GRAVEL CO., LTD., Lordships Quarries, Willoughbybridge, near Market Drayton, Salop. (Tel.: Pinxton 305/5.) All sizes, crushed or natural, washed, gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity: 2,000 tons per day.

WITHERS LIMESTONE, LTD., Black Lane Quarry, Northgate. (Tel.: Carnforth 327.) Graded limestone aggregate to B.S.S. all sizes. Immediate delivery ex stock.

X.L. GRANITE (INGLETON), LTD., Head Office: Clapham, via Lancaster. (Tel.: Clapham 318/9.) Works Tel.: Ingleton 231. All sizes and gradings of Ingleton granite aggregate.

LEICESTERSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London Office—V/Giant 2530.) Best Leicestershire grey granite, dry and coated gradings to any specification, asphalt and wet mix. Prompt rail/road delivery.

CLIFFE HILL GRANITE CO., LTD., Markfield, near Leicester. (Tel.: Markfield 561/2/3.) Granite aggregates to B.S.S. All sizes. Tarred and bituminous granite, concrete slabs and kerbs. All washed granolithic aggregate.

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)

ENDERBY AND STONEY STANLEY GRANITE CO., LTD., 21 New Walk, Leicestershire. (Tel.: 20891.) Quarries at Redditch, London. Offices: 29 Dorset Square, N.W.1. (Tel.: Amb. 1141.)

HILTON GRAVEL LTD., Hemington Fields, near Shardlow, Derby. (Tel.: Shardlow 266.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

MOUNTSORREL GRANITE CO., LTD., 21 New Walk, Leicester. (Tel.: 20891.) Quarries at Mountsorrel, near Loughborough. Tan, pink granite a speciality. London Office: 29 Dorset Sq., N.W.1. (Amb. 1141.)

WALSH GRANITES, LTD., Wanlip Road, Syston, Leicester. Any size or grading, scientifically balanced ballast. All to B.S.S. (Tel.: Syston 2327 and 2797.)

WREAKE VALLEY GRAVELS CO., LTD., Melton Mowbray. (Tel.: Pit—Rotherby 205 or head office Melton 2488.) All grades washed aggregates and sand, transit mixed concrete.

LINCOLNSHIRE

CONINGSBY SUPPLY CO., LTD., Registered Office: Spa 2322.) Screened limestone, hardcore, pitching, filling, flint, hoggin. Ex quarries or delivered. **DOW-MAC (PRODUCTS), LTD.**, Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2001.)

EAST MIDLANDS BUILDERS' SUPPLY CO., LTD., 21 Castle-dyke West, Barton-on-Humber, Lincs. (Tel.: Barton 2189.) All grades washed sand and gravel, roadstone, hardcore, washed silica sand.

GIBBONS, F. B., AND SONS, LTD., Registered Office: Welby House, Market Deeping, near Peterborough. (Tel.: Market Deeping 3321/2383.) Pits at Langtoft, near Peterborough. (Tel.: Market Deeping 2210.) All grades washed sand and aggregates.

HARTSHOLME GRAVEL AND SAND CO., LTD., Hartsholme Wood, Doddington Road, Lincoln. Sole selling agents: Hartsholme Sales, Ltd., 17 Wen Parade, Lincoln. (Tel.: Lincoln 23391.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

PETERBOROUGH QUARRIES, LTD., Sandylands, Peterborough. (Tel.: Market Deeping 2355—3 lines.) Quarry at Ropsey, all grades of hardcore and broken stone. (See also Northants.)

POLLARD, C., AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. Pits at Tallington, near Peterborough, Lincs. (Tel.: Market Deeping 2140.) All grades washed sand and aggregates, concrete or Surecrete ready mixed concrete, phone Market Deeping 3132.)

TRENTFORD GRAVELS, LTD., Head Office: Deansgate, Grimsby. (Tel.: Grimsby 5354.) Washed and graded gravel and sand, roadstone, hardcore, slag, tarmac, ashes, etc. Pits and quarries throughout the county.

LONDON

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: V/Giant 2530.) (For details, see Leics.)

BUCBRICKS COMPANY, LTD., 57 Plaza Chambers, Covent Garden, London, W.C.2. (Tel.: Covent Garden 0534.) All grades of washed aggregates, sand, building sand, asphalt, grit. Sterilised dry sand accurately graded to buyers' requirements.

COX, J. AND SONS, LTD., 23 Southwark Way, Camberwell, S.E.5. (Tel.: Rodney 2215—3 lines.)

DANGERFIELD, F. J., AND CO., LTD., 261A Finchley Road, N.W.3. (Tel.: HAMPstead 8044/8.) Gravel and sand, sand, coated dry, all sizes and pitching granite kerb and sets, felspar quartz and other minerals by road or rail, or ex London stock.

DORSET LIMESTONES, LTD., Bumpers Lane, Easton, Portland, Dorset. (Tel.: Portland 2207/8.) (For details, see Dorset.)

DRINKWATER, W. W. (WILLESDEN), LTD., Dudden Hill Lane, Willesden, N.W.1. (Tel.: Gladstone 6110/10.) Pits at Willow Green, Denham, Bucks. (Tel.: Denham 2211/2/3.) Also Staines Road, Heathrow Heath, Middlesex. (Tel.: Hounslow 6222/3.)

GABRIEL, C., LTD., Palmers Lane, Enfield, Middlesex. (Tel.: Howard 4531/2/3.) Washed aggregates and building sand at Enfield and Hertford.

GRANGE SAND AND STONE LTD., LTD., Chertsey Road, Feltham. (Tel.: Feltham 2285/7.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

HALL AND CO., LTD., Chantrey House, Ecclesall Street, S.W.1. (Tel.: Sloane 7122.) and at East Dulwich. Poplar and Bowdon. Grit, shingles, aggregates, concreting, plastering and building sand.

HAINAUT, G. F. X., LTD., Washed sharp sand B.S. B22. B2. (See Buckinghamshire.)

KEEN, W. J., AND SONS, LTD., 18 Granville Road, Epsom, Essex. (Tel.: Epsom 2520.) All sand, ballast, shingle and hardcore supplied.

LONDON BALLAST CO., LTD., (Tel.: Paddington 5084/15SA) Porchester Terrace, North Paddington, W.2.

READ, P. T., LTD., Gateshead, Bedf ord, Green Rd., Tyneside. Shredded pit sand B.S. B22/9. All sand, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Fairlop Airfield, Forest Road, Ilford, Essex. (Tel.: Hainault 6111/2/3.)

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing Engineering and Common Bricks in terra-cotta red and golden brown. (See Glos.)

MERIONETHSHIRE

SALOP SAND AND GRAVEL SUPPLY CO. Admaston, Wellington (Tel. 961). Salop.

MIDDLESEX

CROSS GEO. C. AND CO., LTD., Uxbridge Road, Southall. (Tel.: Southall 2264/5/6.) Concrete aggregates, hardcore, excavations, demolitions.

DRINKWATER, W. W. (WILLESDEN), LTD., Staines Rd., Hounslow Ht., Middx. (Hounslow 6222/3.)

GABRIEL, C., LTD., Palmers Lane, Enfield, Middlesex. (Tel.: Howard 4531/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

GREENHAM SAND AND BALLAST CO., LTD., Chertsey Road, Feltham. (Tel.: Feltham 2285/7.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

GRUNDON, S. 100/104, HARLINGTON ROAD, MILLINGDOWN, Middx. (Tel.: Uxbridge 3651/2/3.) S.s. ballast, shingle, hardcore, ashes, excavation and demolition.

HALL AND CO., LTD., Chantrey House, Ecclesall Street, S.W.1. (Tel.: Sloane 7122.) and at Aldershot, Bedford, Pits: Bedford and Shepperton. Granite aggregates, concreting, plastering and building sand.

LONDON BALLAST CO., LTD., (Tel.: Paddington 5084/15SA) Porchester Terrace, North Paddington, W.2.

TWICKENHAM GRAVEL CO., LTD., Feltham 2638.

READ, P. T., LTD., Gateshead. (Tel.: Bedf ord 2285/7.) All sand, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Edmonton Gravel Pit, Montagu Road, N.W.9. (Tel.: Shoreditch 9128/9.) and Fairlop Airfield, Forest Road, Ilford (Tel.: Hainault 6111/2).

STUART MACEY, LTD., Gordon Rd., High Wycombe (Tel.: High Wycombe 2591/2.)

CONTRACTORS' GUIDE TO AGGREGATES

MID-WALES

BENGRY AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

OLD RADNOR TRADING CO., LTD., Quarries in Radnorshire. (Tel.: Kington 421.) (See Herefordshire.)

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington. (Tel.: 961), Salop.

TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

MONMOUTHSHIRE

MONMOUTHSHIRE ASSOCIATED QUARRIES, LTD., Head Office: 38 Chepstow Road, Newport, Mon. (Tel.: Newport 5831/2.) Suppliers of all grades of concrete aggregates, road metalling, pitching stone, tarmacadam, dry and bituminous macadam in limestone, dolomite and bluestone pennisant stone. Quarries throughout the county.

SHAKEMANTLE QUARRY CO., LTD., Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

WHITECLIFF QUARRIES AND BRICKWORKS, LTD., Coleford, Glos. (Tel.: 3158/9.) (See Gloucestershire.)

MONTGOMERYSHIRE

NASH ROCKS STONE AND LIME CO., LTD., Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

SALOP SAND AND GRAVEL SUPPLY CO., Admaston, Wellington. (Tel.: 961), Salop.

NORFOLK

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: V/Giant 2530.) (For details, see Leics.)

JOHNSON, P. C. H., LTD., Station Road, Terrington St. Clement, near King's Lynn. (Tel.: Terrington St. Clement 248.) Washed and screened gravel roadstone, washed sharp and fine sands.

ST. IVES SAND AND GRAVEL CO., LTD., 22 The Broadway, St. Ives, Huntingdon. (Tel.: St. Ives 2441/2/3/4) and Coney Weston 304.) Pits at St. Ives and Kettsellish, near Thetford.

NETTERTON STONE QUARRIES, LTD., Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamsted 1208/9.) Pits at Netterton. Concrete aggregates, building sand.

HORSE GRAVEL PITS, LTD., Harvey Lane, Norwich. (Tel.: Norwich 33243/4.) Washed and graded aggregates, stone and gravel delivered to all parts of Norfolk and Suffolk.

NORTHAMPTONSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: V/Giant 2530.) (For details, see Leics.)

BICESTER STONE CO., LTD., Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmacadam, dry, pitching stone, hardcore, etc.

RAYBROOK, E. W., LTD., Newton Road, Ilkham Ferrers, Northants. (Tel.: Rushden 3344 and 3345). All grades of washed and graded aggregates to B.S.S. building sand, hardcore.

DOWMAC (PRODUCTS), LTD., Tallingham, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

DUSTON STONE QUARRIES, LTD., New Duston, Northampton. (Tel.: Bilton 278 and 298; Duston 505.) Producers of building and walling stone, roadstone, hardcore, broken stone, ashes, sand, gravel and hoggin. Immediate delivery throughout Northamptonshire.

FERRERSAND AGGREGATES, LTD., Northampton Stone Quarries, Rushden, Northants. (Tel.: Rushden 2354/5.) Producers in the county of all grades of high quality concrete aggregate to B.S.S. Delivers throughout Northamptonshire and adjoining counties.

GIBBONS, F. B., AND SONS, LTD., Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/233.) (See Lincolnshire for details.)

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

KETTON STONE CO. (Prop. Andrew's Garage), Ketton, (Tel.: Ketton 206.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

MACKANESS, A. J., LTD., Ransome Road, Northampton. (Tel.: Northampton 589.) Producers of all grades of washed aggregates. Building sand, Milmortar (lime/sand mortar). Prompt deliveries.

NEALE BARGE AND LIGHTER CO., LTD., Market Chambers, Peterborough. (Tel.: 5534/5.) and Ship End Quay, Wansford, near Peterborough. (Tel.: Wansford 384/5.) Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

NEWARK (PETERBOROUGH) SAND AND GRAVEL CO., LTD., 127 Eastfield Road, Peterborough. (Tel.: Peterborough 2091.) All grades washed and screened gravel and sand.

PETERBOROUGH QUARRIES, LTD., Sandlands, Maxey, Peterborough. (Tel.: Market Deeping 2355.) Eight quarries supplying all grades of hardcore and broken stone. Also Wetmix at Yarwell, Wansford. All grades gravel and sand at Maxey, Wansford.

POLLARD, C. AND SON (TALLINGTON), LTD., Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

HORTON, F. E., LTD., Weeden Road, Northampton. (Tel.: Northampton 3358.) Producers of washed gravel and sand to B.S.S.

NORTH WALES

CWOOD, WHARTON AND CO., LTD., Plasyl Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon 912/27.) Crushed limestone and tarred macadam, all grades.

NORTH WALES

CHESHIRE AND NORTH WALES TARRED MACADAM CO., LTD., Llanarmon, near Mold. (Tel.: Llanarmon-vn-lal. 43.) Hard, broken limestone; dry and coated to B.S.S. Inquiries to Registered Office—Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 88094.)

ENTRIES BROS., Llynn Isaaf Quarry, Clynnogfawr, Caernarvon. (Tel.: Clynnogfawr 239/8.) All sizes crushed, washed, natural sand and gravel. Highest quality. Precast concrete products. (Tel.: Griffiths Crossing Factory, Caernarfon, Tel.: Caernarfon 2353/6.) Crushed granite ex our quarry. Pengwern and Gwydr Quarries, Ltd., Trefford, Llantysilio, Denbighshire. (Llanrwst 38.)

GWLCHMIAU GRANITE QUARRY, Anglesey. Proprietors: The North Wales Construction Co., Ltd. (Tel.: Gwalmiau 292.) All sizes dry and coated granite materials, hardcore, filling, ready mixed concrete, etc.

PERIWINKLE AND WELSH GRANITE CO., LTD., Quarries at Penmaenmawr (Tel.: 202/8), and at Trevor (Tel.: Clynnogfawr 223.), Caernarfonshire. All sizes and gradings of crushed granite aggregate. Any quantity per day; immediate delivery ex stock. Coated granite also available.

RUTHERSON DENBIGH TARMACADAM CO., LTD., a member of the Lunt, Comley and Pitt Group, Denbigh. (Tel.: Denbigh 75.) Lime, limestone, carbonate of lime, tarmacadam, etc. Also supplies to Lunt Bros., Ltd., Gazette Buildings 168 Corporation Street, Birmingham (Tel.: Central 7408), and Lunt Bros., Ltd., Stourbridge (Tel.: 5201—11 lines).

TERN HILL SAND AND GRAVEL CO., LTD., Almington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

NOTTINGHAMSHIRE

AIZLEWOOD, DOUGLAS E., Bow Bridge, Rotherham. (Tel.: Rotherham 2622.) Crushed and graded limestone; all grades of washed gravel and sand.

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: V/Giant 2530.) (For details, see Leics.)

GLENN QUARRIES, LTD., Central Chambers, Welgate, Rotherham. (Tel.: Rotherham 5223.) Crushed and graded stone, concreting sand, building sand, plastering sand and crushed gravel; could be collected ex quarry or delivered.

GUNTHORPE GRAVELS, LTD., (Tel.: Nottingham 73575; and Works: Lowdham 131.) (An associate company of T. C. Campbell, Ltd.) All grades washed gravel and sand to B.S.S.

HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) Quarry, 100 ft. above Shropshire Holme Pierrepont, Colwick, Bleasby and Newark. Other quarries throughout the country—delivers to 210 dealers. All grades of washed gravel and sand to any specification. Crushed quartzite for surface dressing of roads, speciality. Combined plant capacity 20,000 tons per day.

NEWARK GRAVEL AND CONCRETE CO., LTD., Grove St., New Balderton, Newark, Notts. (Tel.: Newark 401.) All grades washed sand and aggregate.

NORTH NOTTS. GRAVEL CO., LTD., Bellmoor, Retford, Notts. (See Yorkshire.)

SALISBURY AND WOOD, LTD., Matlock. (Tel.: 272/273.) (For details, see Derbyshire.)

OXFORDSHIRE

BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD., near Leicester. (Tel.: Coalville 1226/7/8; or London: V/Giant 2530.) (For details, see Leics.)

BENGYR AND SONS, LTD., Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

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HOVERINGHAM GRAVELS, LTD., Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)
KEVIN LIME CO., LTD., Oakamoor, Staffs. (Tel.: Oakamoor 385/386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.
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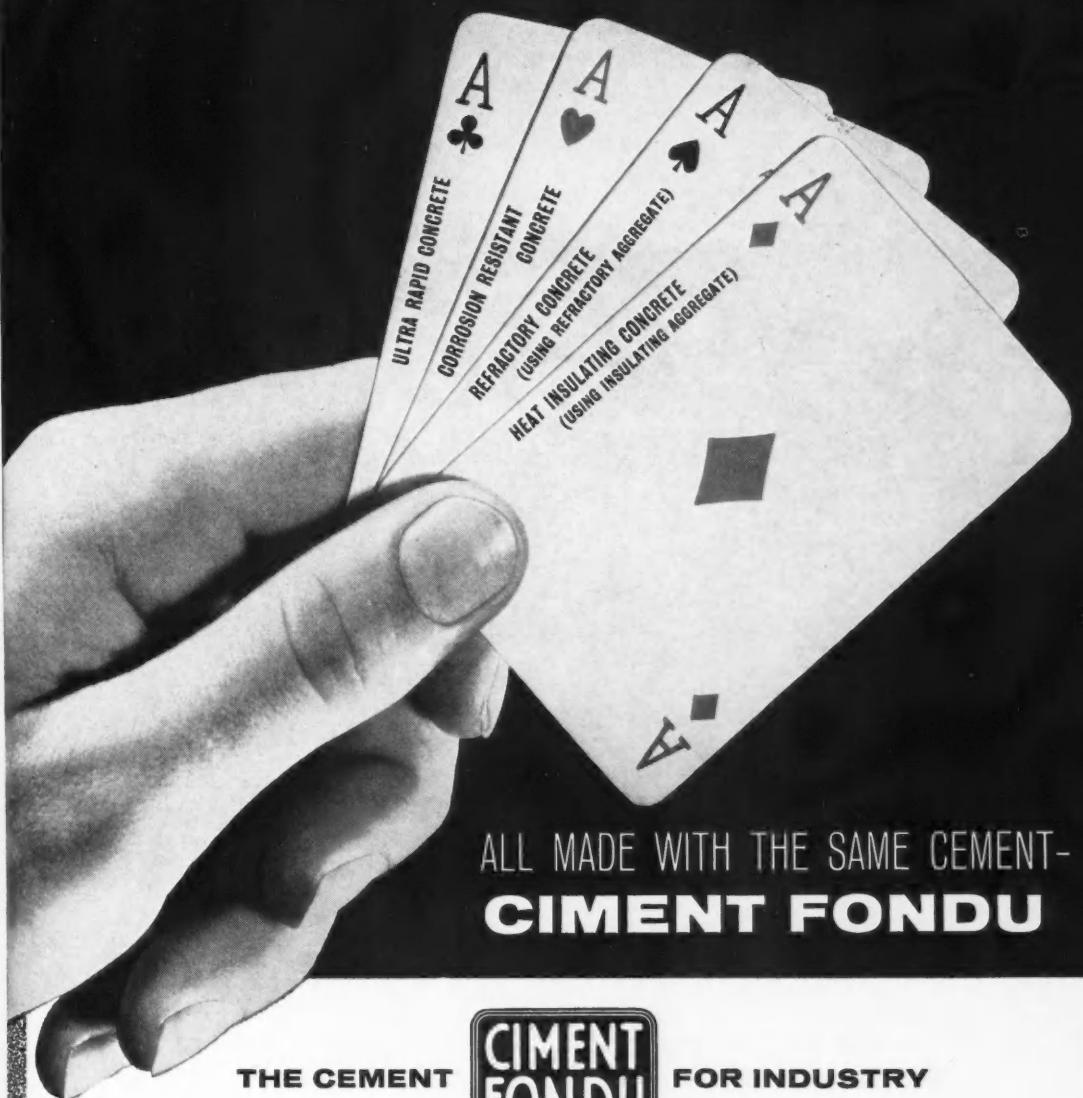
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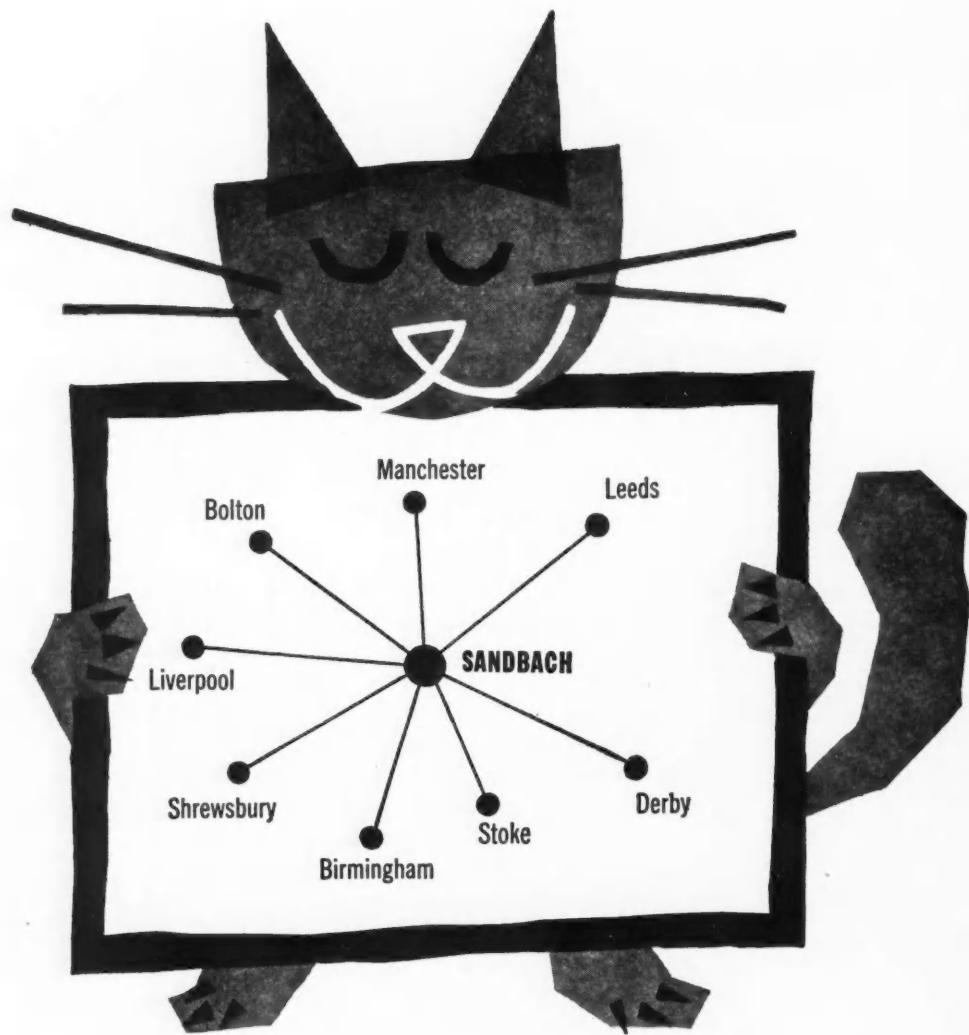


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